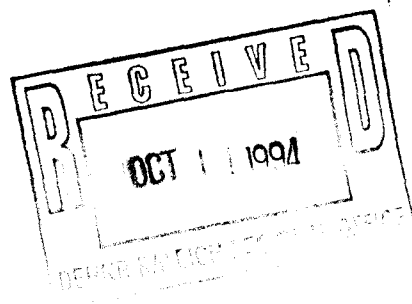


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**UNDERGROUND STORAGE TANK CLOSURE  
FLOWERS STORE ON NC HIGHWAY 42 EAST  
CLAYTON, NORTH CAROLINA**



**Underground Storage Tank Closure  
Flowers Store on NC Highway 42 East  
Clayton, North Carolina**

**For  
Mr. Tommy Thompson  
Action Oil Equipment Company  
Zebulon, North Carolina**

**By  
Froehling & Robertson, Inc.  
Raleigh, North Carolina**

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SINCE



## **FROEHLING & ROBERTSON, INC.**

**GEOTECHNICAL • ENVIRONMENTAL • MATERIALS  
ENGINEERS • LABORATORIES**

**"OVER ONE HUNDRED YEARS OF SERVICE"**

P. O. Box 2551, Raleigh, NC 27602

Telephone: (919) 828-3441

FAX No.: (919) 828-5751

September 29, 1994

Mr. Tommy Thompson  
Action Oil Company  
Route 1, Box 280D  
Zebulon, North Carolina 27597

Re: Underground Storage Tank Closure  
Flowers Store on N.C. 42 East  
Clayton, North Carolina

Dear Mr. Thompson:

Froehling & Robertson, Inc. (F&R) is pleased to submit the results of the underground storage tank (UST) closure performed at the above referenced site on August 29, 1994. Froehling & Robertson, Inc. served as the environmental consultant for this project under direct contract with Action Oil Equipment Company (Action Oil).

### **1.0 PROJECT INFORMATION**

The project site is located on N.C. 42 three miles east of Clayton, North Carolina (see Drawing No. 1 in Appendix A). The three USTs at this site were removed by Action Oil Company of Zebulon, North Carolina. The regional Division of Environmental Management (DEM) office was notified of the removal by the DFR in accordance with DEM Form GW/UST-3.

The USTs at this site are registered as a 8,000 gallon UST (UST No. 1, gasoline: unknown installation date), a 1,000 gallon UST (UST No. 2, kerosene/diesel; unknown installation date) and a 6,000 gallon UST (UST No. 3, diesel; unknown installation date).

**HEADQUARTERS:** 3015 DUMBARTON ROAD • BOX 27524 • RICHMOND, VA 23261-7524  
TELEPHONE (804) 264-2701 • FAX (804) 264-1202

**BRANCHES:** ASHEVILLE, NC • BALTIMORE, MD • CHARLOTTE, NC • CHESAPEAKE, VA  
CROZET, VA • FAYETTEVILLE, NC • FREDERICKSBURG, VA  
GREENVILLE, SC • RALEIGH, NC • ROANOKE, VA • STERLING, VA



The UST locations are presented on Drawings No. 3 and No. 4 which are located in Appendix A of this report. The USTs had been temporarily closed for some time and all product was removed from the tank at that time, with the exception of UST-3 which contained approximately 2,000 gallons of diesel fuel. Action Oil removed the fuel and transported the diesel fuel to Noble Oil for disposal. The fuel dispensers and concrete dispenser pad also had not been removed. The end of each UST was within about 5 to 8 feet of the dispenser pad.

Public water is not available to the surrounding area. The area within 1,500 feet of the site is sparsely populated. There are four (4) residences within 1500 feet of the site. None of the residents in the surrounding area reported a petroleum taste or odor in their well water.

## **2.0 CLOSURE ACTIVITIES**

The USTs were removed on August 29 and 30, 1994. The North Carolina Division of Environmental Management (DEM) was notified by the Action oil prior to removal of the UST. The local fire marshall was contacted and informed of the planned UST removal. All of the UST closure activities were performed in general accordance with the DEM guidelines for permanent UST closure (15A NCAC 2N .0801 to .0805), the activities required by DEM Form GW/UST-2, the American Petroleum Institute (API) Publications 1604 and 2015 and the National Institute for Occupational Safety and Health (NIOSH) publication "Criteria for a Recommended Standard: Working in Confined Spaces". The UST removal and disposal was performed by Action Oil. An OSHA Health and Safety trained geologist and/or environmental technician from F&R was on-site at all times of the removal process to document and verify the closure activities.

The USTs had been temporarily closed for some time and were empty of free product at the time of the removal activities, except for UST-3 which contained approximately 2,000 gallons of diesel fuel. Action Oil pumped the diesel fuel into a holding tank and transported it to Noble Oil.



Initially, a hole was excavated down to the top of the USTs and the vent and fill pipes were removed. The USTs were then purged with compressed air to remove explosive vapors. After each UST had been purged, it was removed and a hole was cut into the end such that all of the sludge could be removed. Each UST was inspected by F&R. There was no evidence of holes or leaks in the USTs or product piping. Some severe pitting was present. After the USTs were accessed and the sludge was removed, the USTs were cut into pieces, loaded on a dump truck and hauled to K & L Scrap Metal Company in Raleigh, NC for disposal (see Tank Removal/Disposal Certificate in Appendix B).

During the excavation the soil samples were scanned with a HNU photoionization detector (PID) unit. The PID scans were performed to help detect the presents of organic vapors in the soil samples. Soil samples from the excavation were placed in glass jars which were tightly covered with foil. The tip of the PID was inserted through the foil into each jar and the total volatile organic concentrations were measured in parts per million.

Soil samples were collected by F&R in accordance with current DEM protocol. The soil samples were obtained from the backhoe bucket using a stainless steel scoop. The scoop was cleaned in a soap solution and double rinsed between each sample. All of the soil samples were immediately placed in pre-cleaned glass jars with vapor/fluid tight teflon lids. The jars were completely filled before capping.

All of the samples were stored on ice in a cooler and shipped overnight to the chemical analysis laboratory. EPA recommended chain-of-custody procedures were maintained throughout the sampling and analysis program.

## 2.1 UST REMOVAL



The USTs were removed without major problems. Approximately 24 inches of earth was encountered over each of the USTs. The soils within the UST excavation consisted of reddish-tan and red clayey silts. Groundwater was not encountered in any of the UST excavations.

There was no olfactory evidence of soil contamination above or around the USTs. A mild odor was noted along the bottom of the 1,000 gallon kerosene/diesel UST (UST-2). The PID readings were on the order of 200 ppm which closely approximates the SSE action level. A Site Sensitivity Evaluation (SSE) was performed at this site. A cleanup level of 160 ppm for diesel was determined.

There was no visual evidence of leaks or holes on any of the USTs. Some severe pitting was noted. The product piping connections appeared to be in good condition and there was no evidence of staining or odors around the piping/UST connections.

Two soil samples were obtained at depths of 1.5 to 2 feet below each UST for chemical analysis in accordance with DEM protocol. The analytical chemical test results appear in Appendix C. The soil sample locations are shown on Drawing No. 4 in Appendix A. A summary of the field and laboratory results is as follows:

UST 1 - 8,000 GALLON GASOLINE						
Lab Sample	Field Sample	Location	Depth	PID (ppm)	TPH Method 5030 (ppm)	TPH Method 3550 (ppm)
S-1	UST1-1	North	12'	0	<5	-
S-2	UST1-2	Center	12'	0	<5	8
S-3	UST1-3	South	12'	0	<5	-



UST 2 - 1,000 GALLON KEROSENE/DIESEL						
Lab Sample	Field Sample	Location	Depth	PID (ppm)	TPH Method 5030 (ppm)	TPH Method 3550 (ppm)
S-4	UST2-1	West	8'	50	567	11,100
S-5	UST2-2	East	8'	200	2,900	17,800*

\* Lab re-tested sample, result was 11,000 ppm.

UST 3 - 6,000 GALLON DIESEL						
Lab Sample	Field Sample	Location	Depth	PID (ppm)	TPH Method 5030 (ppm)	TPH Method 3550 (ppm)
S-6	UST3-1	North	10'	2.4	<5	18
S-7	UST3-2	Center	10'	7.2	<5	21
S-8	UST3-3	South	10'	113	<5	90

## 2.2 DISPENSER ISLAND/PRODUCT PIPING

As previously noted, the dispenser island had not been removed prior to the UST removal activities. Two samples were obtained beneath the three dispensers which were all located on the same dispenser island. The PID and analytical chemical results are as follows:

DISPENSER ISLAND						
Lab Sample	Field Sample	Location	Depth	PID (ppm)	TPH Method 5030 (ppm)	TPH Method 3550 (ppm)
S-9	Gas-1	Center	2'	0	<5	-
S-10	Gas-2	Center	2'	16	<5	-
S-11	Diesel	Center	2'	2	<5	<8



Since the dispensers were located within 5 to 8 feet of the USTs soil samples were not obtained for analytical testing on the product piping. F&R inspected the area around the product piping. There was no evidence of petroleum odors or leaks.

### 3.0 CONCLUSIONS

Based on F&R's observations and documentation of the UST closure activities, it is our opinion that the closure activities were performed in substantial accordance with DEM, API and NIOSH guidelines. DEM Form GW/UST-2 has been completed and is included with this report in Appendix B.

Although there was no obvious evidence of contamination in the field, the analytical chemical test data indicated a number of elevated TPH-High boiling point (diesel) measurements. Since these measurements were above the minimum DEM action levels (10 ppm-gasoline, 40 ppm-diesel), a site sensitivity analysis was performed. The site sensitivity analysis (included in Appendix D) indicated an action level of 160 ppm for diesel soil contamination, respectively for this site. Based on this criteria, two of the analytical chemical results are above the DEM action level.

It is our conclusion that a leak has occurred from UST-2. We recommend that the contaminated soil above the SSE action level should be removed and transported to a DEM approved facility. Further action with respect to UST-1 and UST-3 is not recommended.

### 4.0 LIMITATIONS

This report has been prepared for the exclusive use of the North Carolina Division of Forest Resources and/or their assignees. This report has been prepared in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. This report should not be construed in any way to indicate F&R's recommendation to either purchase, sell or develop the project site. F&R by virtue of providing the services described in this report,



does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state or federal public agencies any conditions at the site that may present a potential danger to public health, safety or the environment.

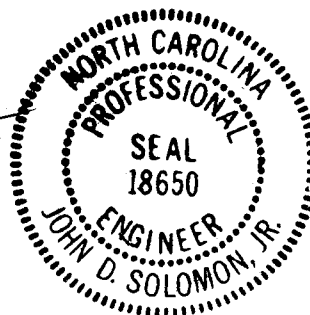
F&R appreciates the opportunity to have served you as your environmental consultant on this project. If you have any questions regarding this report or if we can be of further assistance to you, please do not hesitate to contact us.

Very truly yours,

FROEHLING & ROBERTSON, INC.

Michael J. Burns  
Staff Geologist

J.D. Solomon, P.E.  
Project Manager



MIJ/JDS:mc

**APPENDIX A**  
**DRAWINGS**

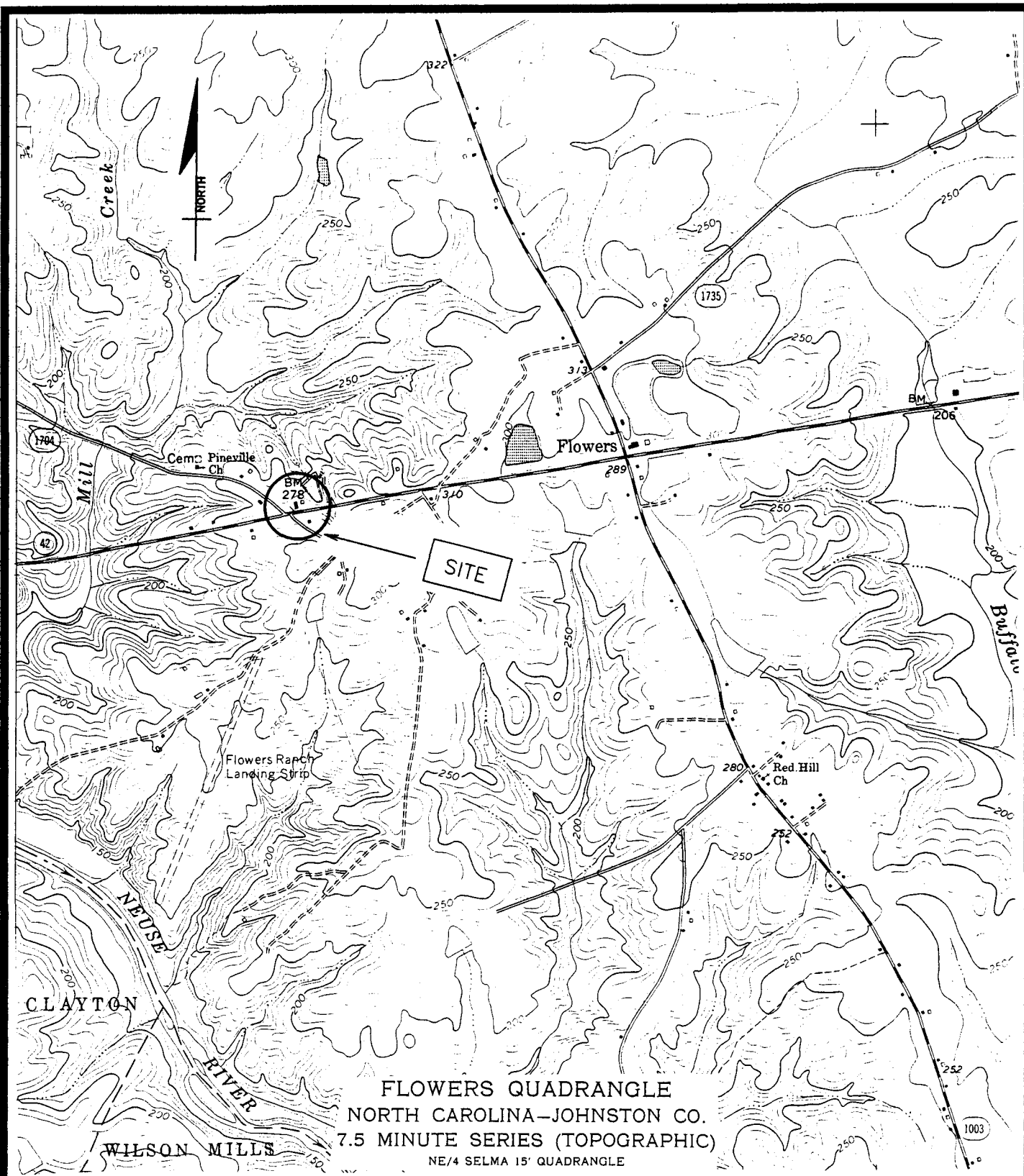




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ENGINEERS • LABORATORIES  
RALEIGH, NC

CLIENT	ACTION OIL	
PROJECT	W66-367	
LOCATION	CLAYTON, N.C.	
DRAWN	MJB	
CHECKED	JDS	
DATE: 10/94	SCALE: 1" = 2MI	DRAWING No.: 1



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RALEIGH, NC

CLIENT	ACTION OIL	
PROJECT	W66-367	
LOCATION	CLAYTON, N.C.	
DRAWN	MJB	
CHECKED	JDS	
DATE: 10/94	SCALE: 1" = 2000'	DRAWING No.: 2



N.C. 42

GRASS

UST-2

DISPENSER ISLAND

UST-1

UST-3

COVERED

EARTH DRIVEWAY

EARTH DRIVEWAY

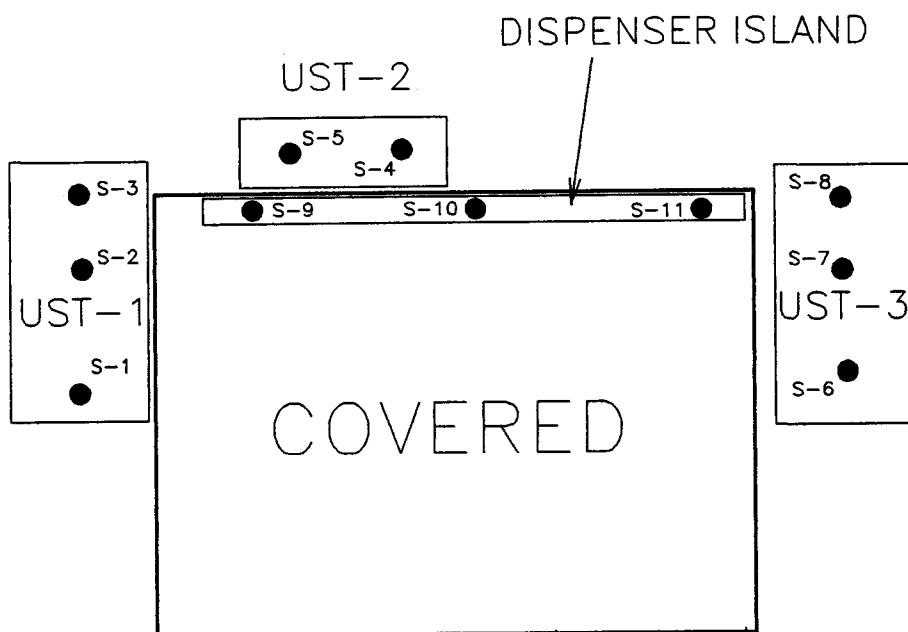
FLOWERS STORE



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RALEIGH, NC

CLIENT	ACTION OIL COMPANY	
PROJECT	W66-367	
LOCATION	CLAYTON, N.C.	
DRAWN	MJB	
CHECKED	JDS	
DATE: 9/94	SCALE: 1" = 30'	DRAWING No.: 3



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RALEIGH, NC

CLIENT	ACTION OIL COMPANY	
PROJECT	W66-367	
LOCATION	CLAYTON, N.C.	
DRAWN	MJB	
CHECKED	JDS	
DATE: 9/94	SCALE: 1" = 20'	DRAWING No.: 4

**APPENDIX B**  
**TANK DISPOSAL CERTIFICATE**  
**AND DEM FORM GW/UST-2**



## TANK DISPOSAL CERTIFICATE

DATE OF REMOVAL: 8/29 + 8/31/94OWNER'S NAME: Mrs. Gladys FlowersLOCATION OF JOB SITE: Jimmy Flowers Store  
Hwy 42  
Clayton.

<u>QUANTITY</u>	<u>SIZE</u>	<u>CONTENTS</u>
<u>2</u>	<u>8,000 gallon</u>	<u>gas</u>
<u>1</u>	<u>1,000 gallon</u>	<u>diesel</u>

TANK(S) DISPOSED OF AT: K&L Scrap Metal

A handwritten signature in dark ink, appearing to read "T. D. S. [unclear]", is written over the printed title "Action Oil Equipment Officer".

Action Oil Equipment Officer

FOR  
TANKS  
IN  
NC

## Return Completed Form To:

The appropriate DEM Regional Office according to the county of the facility's location.  
[SEE MAP ON REVERSE SIDE OF OWNER'S COPY (PINK) FOR REGIONAL  
OFFICE ADDRESS].

State Use Only

I.D. Number \_\_\_\_\_

Date Received \_\_\_\_\_

## INSTRUCTIONS

Complete and return within (30) days following completion of site investigation.

## I. Ownership of Tank(s)

Owner Name: Mrs. Gladys Flowers  
Corporation, Individual, Public Agency, or Other Entity  
Street Address: NC Highway 42  
County: Johnston  
City: Clayton State: NC Zip Code: 27520  
Telephone Number: (\_\_\_\_\_) \_\_\_\_\_  
(Area Code)

## II. Location of Tank(s)

Facility Name: Flowers Store  
(or Company)  
Facility ID # (if available): \_\_\_\_\_  
Street Address: NC Highway 42  
(or State Road)  
County: Johnston City: Clayton Zip Code: 27520  
Telephone Number: (\_\_\_\_\_) \_\_\_\_\_  
(Area Code)

## III. Contact Person

Name: Tommy Thompson Job Title: Owner-Action Oil Tel. No.: (919) 365-3746  
Closure Contractor: Tommy Thompson Address: Rt. 2, Box 280-D, Zebulon, NC Tel. No.: (919) 365-3746  
Primary Consultant: Froehling & Robertson Address: 310 Hubert St., Raleigh, NC Tel. No.: (919) 828-3441  
Lab: Froehling & Robertson Address: 310 Hubert St., Raleigh, NC Tel. No.: (919) 828-3441

## IV. U.S.T. Information

## V. Excavation Condition

## VI. Additional Information Required

Tank No.	Size in Gallons	Tank Dimensions	Last Contents	Water in Excavation		Free Product		Notable Odor or Visible Soil Contamination	
				Yes	No	Yes	No	Yes	No
1	8,000	8' $\phi$ x 22'	Gasoline		x		x		x
2	1,000	4' $\phi$ x 12'	Diesel/Kerosene		x		x	x	
3	6,000	8' $\phi$ x 15'	Diesel		x		x		x

See reverse side of pink copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

NOTE: The site assessment portion of the tank closure must be conducted under the supervision of a Professional Engineer or Licensed Geologist. After Jan. 1, 1994, all closure site assessment reports must be signed and sealed by a P.E. or L.G.

## VII. Check List (Check the activities completed)

## PERMANENT CLOSURE (For Removing or Abandoning-in-place)

- ☒ Contact local fire marshal.  
☒ Notify DEM Regional Office before abandonment.  
☒ Drain & flush piping into tank.  
☒ Remove all product and residuals from tank.  
☒ Excavate down to tank.  
☒ Clean and inspect tank.  
☒ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.  
☒ Cap or plug all lines except the vent and fill lines.  
☒ Purge tank of all product & flammable vapors.  
☒ Cut one or more large holes in the tanks.  
☒ Backfill the area.  
Date Tank(s) Permanently closed: 8/29/94  
Date of Change-in-Service: \_\_\_\_\_

## ABANDONMENT IN PLACE

- ☐ Fill tank until material overflows tank opening.  
☐ Plug or cap all openings.  
☐ Disconnect and cap or remove vent line.  
☐ Solid inert material used - specify: \_\_\_\_\_

## REMOVAL

- ☒ Create vent hole.  
☒ Label tank.  
☒ Dispose of tank in approved manner.  
Final tank destination: Scrap -  
K & L Scrap Metal

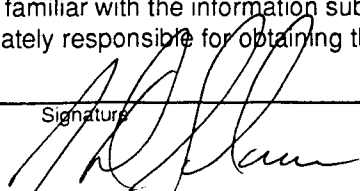
## VIII. Certification (Read and Sign)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Print name and official title of owner or owner's authorized representative

J. D. Solomon, P.E., Project Manager

Signature



Date Signed

9/30/94

**APPENDIX C**  
**CHEMICAL ANALYSIS RESULTS**



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**FROEHLING & ROBERTSON, INC.**GEOTECHNICAL • ENVIRONMENTAL • MATERIALS  
ENGINEERS • LABORATORIES**"OVER ONE HUNDRED YEARS OF SERVICE"****CERTIFICATE OF ANALYSIS**

September 19, 1994

Page 1 of 1

LAB #: 9409027  
 CLIENT: F&R Raleigh  
 Attn: J.D. Solomon

PROJECT: Action Oil-Jimmy Flowers  
 PROJECT #: W66-367  
 SAMPLE COLLECTOR: C. Seabright, M. Burns  
 LAB RECEIPT: 9/03/94, 1445

<u>PARAMETER</u>	<u>ANALYSIS DATE/TIME</u>	<u>METHOD</u>	<u>ANALYST</u>
TPH-GC Low BP	9/08/94,1052	SW846/5030/8015	KR/IS
TPH-GC High BP	9/09/94,1349	CAL/SW846/8015M	KR

**RESULTS:**

<u>F&amp;R #:</u>	<u>SAMPLE ID:</u>	<u>TYPE:</u>	<u>DATE/TIME:</u>	<u>TPH-GC Low BP:</u>	<u>TPH-GC High BP:</u>
9409027-01	UST-1,N	Soil/Grab	8/29/94,1150	BDL	
9409027-02	UST-1,C	Soil/Grab	8/29/94,1200	BDL	
9409027-03	UST-1,S	Soil/Grab	8/29/94,1210	BDL	
9409027-04	UST-2,W	Soil/Grab	8/29/94,1325	567 mg/kg	11,100 mg/kg
9409027-05	UST-2,E	Soil/Grab	8/29/94,1330	2,900 mg/kg	17,800 mg/kg
9409027-06	UST-3,N	Soil/Grab	8/30/94,1010	BDL	18 mg/kg
9409027-07	UST-3,C	Soil/Grab	8/30/94,1012	BDL	21 mg/kg
9409027-08	UST-3,S	Soil/Grab	8/30/94,1015	BDL	90 mg/kg
9409027-09	Gas-1,Pump Is.	Soil/Grab	8/30/94,1033	BDL	
9409027-10	Gas-2,Pump Is.	Soil/Grab	8/30/94,1035	BDL	
9409027-11	Diesel,Pump Is.	Soil/Grab	8/30/94,1030	BDL	BDL

Det'n Limit: 5 mg/kg 8 mg/kg

Soil results are reported on dry weight basis unless otherwise noted.

\* 9409027-05 TPH HBP Rerun 9/15/94, 0740, Result 11,000 mg/kg.

mg/kg: Milligram per kilogram

BDL: Below detection limit

*Audrey N. Brubeck*  
**Audrey N. Brubeck**  
 Laboratory Supervisor  
 AB/cb

HEADQUARTERS: 3015 DUMBARTON ROAD • BOX 27524 • RICHMOND, VA 23261-7524  
 TELEPHONE (804) 264-2701 • FAX (804) 264-1202

BRANCHES: ASHEVILLE, NC • BALTIMORE, MD • CHARLOTTE, NC • CHESAPEAKE, VA  
 CROZET, VA • FAYETTEVILLE, NC • FREDERICKSBURG, VA  
 GREENVILLE, SC • RALEIGH, NC • ROANOKE, VA • STERLING, VA



# CHAIN OF CUSTODY RECORD

Please Print - CLIENT NAME ADDRESS

Active Oil / F+R Raleigh

PHONE/FAX (919) 828-3441

1881

**FROEHLING & ROBERTSON, INC.**  
P.O. BOX 27524  
RICHMOND, VIRGINIA 23261  
**TEL: (804) 264-2701**  
**FAX: (804) 264-1202**

LAB PROJECT #		CLIENT PROJECT NAME/NUMBER - Please Print		REQUESTED TEST PARAMETERS - Please Print										
LAB PROJECT #		CLIENT PROJECT NAME/NUMBER - Please Print		REQUESTED TEST PARAMETERS - Please Print										
1401027		Action Oil - Jimmy Flowers / W66 -												
SAMPLERS (SIGNATURE AND PRINT)														
Chuck Seabright, Michael Brown														
SAMPLE ID	DATE	TIME	GRAB	SAMPLE LOCATION - Please Print										
01	8/29/94	11:50	X	UST-1, N										
02	8/29/94	12:00	X	UST-1, Cen										
03	8/29/94	12:10	X	UST-1, S										
04	8/29/94	1:25	X	UST-2, W										
05	8/29/94	1:30	X	UST-2, E										
06	8/29/94	10:10	X	UST-3, N										
07	8/29/94	10:12	X	UST-3, Cen										
08	8/29/94	10:15	X	UST-3, S										
09	9/30/94	10:33	X	Gas-1 Pump Island										
10	8/29/94	10:35	X	Gas-2 Pump Island										
11	8/30/94	10:30	X	Gas-1 Pump Island 2										
RELINQUISHED BY (SIGNATURE)				DATE	TIME	RECEIVED BY		DATE	TIME	FIELD COMMENTS: Please Print				
Michael Brown				8/29/94	8:15	J. A. K. Rose		8/30/94	1445					
RELINQUISHED BY (SIGNATURE)				DATE	TIME	RECEIVED BY		DATE	TIME					
RELINQUISHED BY (SIGNATURE)				DATE	TIME	RECEIVED FOR LAB BY		DATE	TIME					
SHIPPED VIA _____ DATE _____														

**APPENDIX D**  
**SITE SENSITIVITY EVALUATION**

TABLE 3

SSE SITE CATEGORY DESCRIPTIONS

CATEGORY A (*Site meets any one of the criteria*)

1. Water supply well(s) contaminated and not served by accessible public water supply.
2. Vapors present in confined areas at explosive or health concern levels.
3. Treated surface water supply in violation of the safe drinking water standards.

CATEGORY B (*Site meets any one of the criteria*)

1. Water supply well(s) contaminated, but served by accessible public water supply.
- 2. Water supply well(s) within 1500 feet of site, but not contaminated and not served by accessible public water supply.
3. Vapors present in confined areas but not at explosive or health concern levels.

CATEGORY C (*Site meets both of the criteria*)

1. No known water supply well(s) contaminated.
2. Water supply well(s) greater than 1500 feet from site but not served by accessible public water supply.

CATEGORY D (*Site meets both of the criteria*)

1. No known water supply well(s) contaminated.
2. Water supply well(s) within 1500 feet of site but served by accessible public water supply.

CATEGORY E (*Site meets both of the criteria*)

1. No known water supply well(s) contaminated or within 1500 feet of site.
2. Area served by accessible public water supply.

Table 1  
**Site Sensitivity Evaluation (SSE)**  
 Site Characteristics Evaluation (Step 1)

Characteristic	Condition	Rating	
Grain Size*	Gravel Sand Silt Clay	150 100 50 0	50
Are relict structures, sedimentary structures, and/or textures present in the zone of contamination and underlying "soils"?	Present and intersecting the water table.  Present but <u>not</u> intersecting the water table.  None present.	10  5  0	510
Distance from location of deepest contaminated soil** to water table.	0 - 5 feet (C, D & E sites only) 5 - 10 feet >10 - 40 feet > 40 feet	20 20 10 0	20
Is the top of bedrock or transmissive indurated sediments located above the water table?	Yes No	20 0	20
Artificial conduits present within the zone of contamination.	Present and intersecting the water table. Present but <u>not</u> intersecting the water table. Not present.	10 5 0	10

**Total Site Characteristics Score:** 110

\* **Predominant** grain size based on Unified Soil Classification System or U.S. Dept. of Agriculture's Soil Classification Method.

\*\* (>10 ppm TPFH by Method 5030; >40 ppm TPFH by Method 3550; >250 ppm O&G by Method 9071)

Table 2

# Site Sensitivity Evaluation (SSE)

Initial Cleanup Level  
(Step 2)

Final Cleanup Level  
(Step 3)

## EPA Method 5030 for Low Boiling Point Hydrocarbons such as Gasoline, Aviation Fuels, Gasohol

Total Site Characteristics Score	Initial Cleanup Level TPFH (ppm)	Select Site Category*	Category A & B (Multiply initial cleanup level by 1)	Final Cleanup Level
>150	≤10		1 x <u>40</u> = <u>40</u> ppm	
121-150	20	Category C & D (Multiply initial cleanup level by 2)	2 x _____ = _____ ppm	
<u>91-120</u>	<u>40</u>	Category E (Multiply initial cleanup level by 3)	3 x _____ = _____ ppm	
61-90	60			
31-60	80			
0-30	100			

## EPA Method 3550 for High Boiling Point Hydrocarbons such as Kerosene, Diesel, Varsol, Mineral Spirits, Naphtha

Total Site Characteristics Score	Initial Cleanup Level TPFH (ppm)	Select Site Category*	Category A & B (Multiply initial cleanup level by 1)	Final Cleanup Level
>150	≤40		1 x <u>160</u> = <u>160</u> ppm	
121-150	80	Category C & D (Multiply initial cleanup level by 2)	2 x _____ = _____ ppm	
<u>91-120</u>	<u>160</u>	Category E (Multiply initial cleanup level by 3)	3 x _____ = _____ ppm	
61-90	240			
31-60	320			
0-30	400			

## EPA Method 9071 for Heavy Fuels - Oil & Grease (O&G) such as Fuel Oil #4, #5, #6, Motor Oil, Hydraulic Fluid

Total Site Characteristics Score	Initial Cleanup Level O&G (ppm)	Select Site Category*	Category A & B (Multiply initial cleanup level by 1)	Final Cleanup Level
>150	≤250		1 x _____ = _____ ppm	
121-150	400	Category C & D (Multiply initial cleanup level by 2)	2 x _____ = _____ ppm	
<u>91-120</u>	<u>550</u>	Category E (Multiply initial cleanup level by 3)	3 x _____ = _____ ppm	
61-90	700			
31-60	850			
0-30	1000			

\* See Site Category Descriptions, Table 3

# Agra Environmental

P.O. BOX 5611  
CARY, NC 27512  
TEL: (919) 858-5350  
FAX: (919) 858-5351

*revised 9-12-06*

## UST CLOSURE REPORT

(GW/UST-12)

Flowers Store  
4181 NC Hwy 42 E  
Clayton, Johnston County, North Carolina 27527

## UNDERGROUND STORAGE TANK CLOSURE REPORT

*The closure report should contain, at a minimum, the following information. Any other information that is pertinent to the site should be included.*

### I. General Information

#### A. Ownership of UST(s)

##### 1. Name of UST owner:

Mr. David Milton Flowers

##### 2. Owner address and telephone number:

4181 NC Hwy 42 E

Clayton, Johnston County, North Carolina 27527

Phone No. (919) 553-4044

#### B. Facility Information

##### 1. Facility name:

Flowers Store

##### 2. Incident #:

17217

##### 3. Facility address, telephone number and county:

4181 NC Hwy 42 E

Clayton, Johnston County, North Carolina 27527

#### C. Contacts

##### 1. Name, address and telephone number of closure contractor:

ECS, LLC

Post Office Box 5611

Cary, Wake County, North Carolina 27512

Phone No. (919) 622-1164

##### 3. Name, address and telephone number of primary consultant:

Agra Environmental, Inc.

539 Keisler Drive, Suite 104

Cary, Wake County, North Carolina 27512

Phone No. (919) 858-5350



## 4. Name, address, telephone number, and State certification number of laboratory:

Analytics Corporation  
 8040 Villa Park Drive, Suite 250  
 Richmond, Virginia 23228  
 Phone No. (804) 264-7100  
 Drinking Water ID: 37715

## D. UST Information

Tank no.	Estimated Age (years)	Size in Gallons	Tank Dimensions	Last Contents	Previous Contents	Tank Owner
1	Unknown	1,000	46" X 12'	Gasoline	N/A	Flowers Store

## E. Site Characteristics

## 1. Describe any past releases at this site:

Froehling and Robertson, Inc removed three tanks from the site in September of 1994. One 8,000-gallon gasoline tank, one 1,000-gallon Kerosene/diesel tank, and one 6,000 gallon gasoline tank were removed at that time. Soil contamination was found at the time of removal. The site was assigned GW Incident # 17217. No contaminated soil was removed from the site.

## 2. Is the facility active or inactive at this time? If the facility is inactive note the last time the USTs were in operation:

The facility was inactive prior to closure. The UST has been out of operation since 1994.

## 3. Describe surrounding property use (for example, residential, commercial, farming, etc.)

Rural – residential and agricultural.

## 4. Describe site geology/hydrogeology

*Coastal Plain* Coastal Plain - Red-Buff, mg - fg sandy clay. The site has moderate topographic relief (Figure 1). Surface drainage on the site is to the north-northwest.

## 5. Describe results of receptor survey

*private water wells.* The area is served by a public water supply. There are potential groundwater supply wells within 1,000 feet of the subject site.

## II. Closure Procedures

## A. Note the amount of residual material pumped from the tank(s):

No residual material was removed from the tank.

## B. Describe the storage, sampling and disposal of the residual material:

No residual material was removed from the tank.

## C. Excavation

*Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" on limiting excavations. The Trust Fund will not pay for excessive excavation unless it is justified and verified by laboratory results.*

1. Describe excavation procedures noting the condition of the soils and the dimensions of the excavation in relation to the tanks, piping and/or pumps:  
The tank excavation was just large enough to remove the tank. Soils appeared to be free of contamination at the time of closure.
2. Note the depth of tank burial(s) (from land surface to top of tank):  
The tank was buried approximately 2.0 feet below land surface.
3. Describe the condition of the UST system:  
No Pitting or holes were encountered.
4. Note if water, free product, or bedrock were encountered:  
Water, free product, and bedrock were not observed.
5. Quantity of soil removed:  
Two drums of soil were removed. The remaining soil was returned to the tank pit
6. Describe soil type(s):  
The soils encountered during the UST closure consisted mostly of a clayey sand. According to the geologic map of North Carolina, the site is located in the Raleigh Belt and is underlain by biotite gneiss and schist's.
7. Type and source of back fill used:  
Clean soil was used from a local pit.
8. Describe the location and method of disposal of the UST's:  
The Tanks were disposed of by Environmental Contracting Services, LLC (Appendix A).

## D. Contaminated Soil

*Note: Suspected contaminated soil should be segregated from soil that appears to be uncontaminated and should be treated as contaminated until proven otherwise. It should not be used as back fill.*

1. Describe how it was determined to what extent to excavate the soil:  
Just enough soil was excavated to remove the tank. Two drums of contaminated soil were disposed of due to spillage of residual sludge in the UST.
2. Describe method of temporary storage, sampling and treatment/disposal of soil:  
Contaminated soil was not excavated. Soil was returned to the tank pit. Two drums of soil were disposed of due to the spillage of residual sludge in the UST.

### III. Site investigation

- A. Provide information on field screening and observations, include methods used to calibrate field screening instrument(s):

Soil samples were not screened in the field.

- B. Describe soil sampling points and sampling procedures used, including:

*Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" for information about sampling requirements.*

- Location of samples:

~~Samples were collected below the base of the tank (Figure 3).~~

- Type of samples (from excavation, stockpiled soil, etc.):

~~Samples were taken from the site with a hand auger.~~

- Sample collection procedures (grab, split spoon, hand auger, etc.):

Grab samples were collected beneath the tank.

- Depth of soil samples (below land surface):

Sample depths are shown in Figure 3.

- Whether samples were taken from side or floor of an excavation:

Samples were taken from the floor of the excavation.

- Sample identification:

Sample identification is listed in Table 1, and shown in Figure 3.

- Sample analyses:

Samples analyses and results are listed in Table 1, and shown in Figure 3.

- C. Describe groundwater or surface water sampling procedures used, including:

*Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" for information about sampling requirements.*

- Location of samples

- Sample collection procedures (grab, bailer, etc.)

~~Ground water was not encountered.~~

- Sample identification

~~Ground water samples were not collected.~~

- Sample analyses

- D. Quality control measures

- Describe sample handling procedures including sample preservation and transportation:

Chain of custody was initiated; samples were preserved on ice and delivered to the lab.

- Describe decontamination procedures used:

All samples (grab) were collected with a clean latex glove.

- Describe time and date samples were collected and date submitted to lab:  
Samples were collected on 4/24/06, and submitted to the lab on 4/24/06.
- Describe samples collected for quality control purposes (e.g. duplicates, field blanks, trip blanks, etc.)  
Include methods used to obtain these samples and analytical parameters.:  
No blanks or duplicates were collected.
- Discuss how results of quality control samples may have affected your interpretation of soil, groundwater or surface water sample results  
Not applicable.

#### E. Investigation results

- Describe methods of analyses used (include U.S. EPA method number)  
USEPA Method 8015/5030 (Table 1 and Figure 3).
- Describe analytical results for samples; discuss in relation to site specific cleanup level or action level, as appropriate  
USEPA Method TPH DRO/GRO reported contaminant concentrations below action limits (Figure 3).

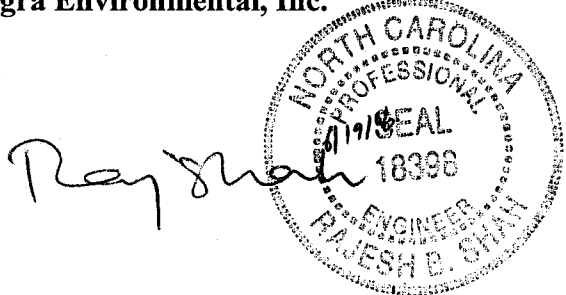
#### IV. Conclusions and Recommendations

Include probable sources of contamination, further investigation or remediation tasks, or whether no further action is required.

USEPA Method TPH DRO/GRO reported contaminant concentrations below action limits (Figure 3). No further investigation and/or remediation should be required at this portion of the site.

#### V. Signature of Professional Engineer or Licensed Geologist

Raj B. Shah, P.E.  
Agra Environmental, Inc.



■ Professional Engineer Registration #: 18398

4-12-06-

- reviewed report
- page 2 of report - clarify the item # 5 of site characteristics  
Dgt knowledge of site indicates site is served by private wells.
- page 2 of report - correct item # 4 of site characteristics

MSP 4-12-06

## VI. Enclosures

### A. Figures

1. Site Location and Regional Topography
2. Location Diagram
3. Sample Location Diagram

### B. Tables

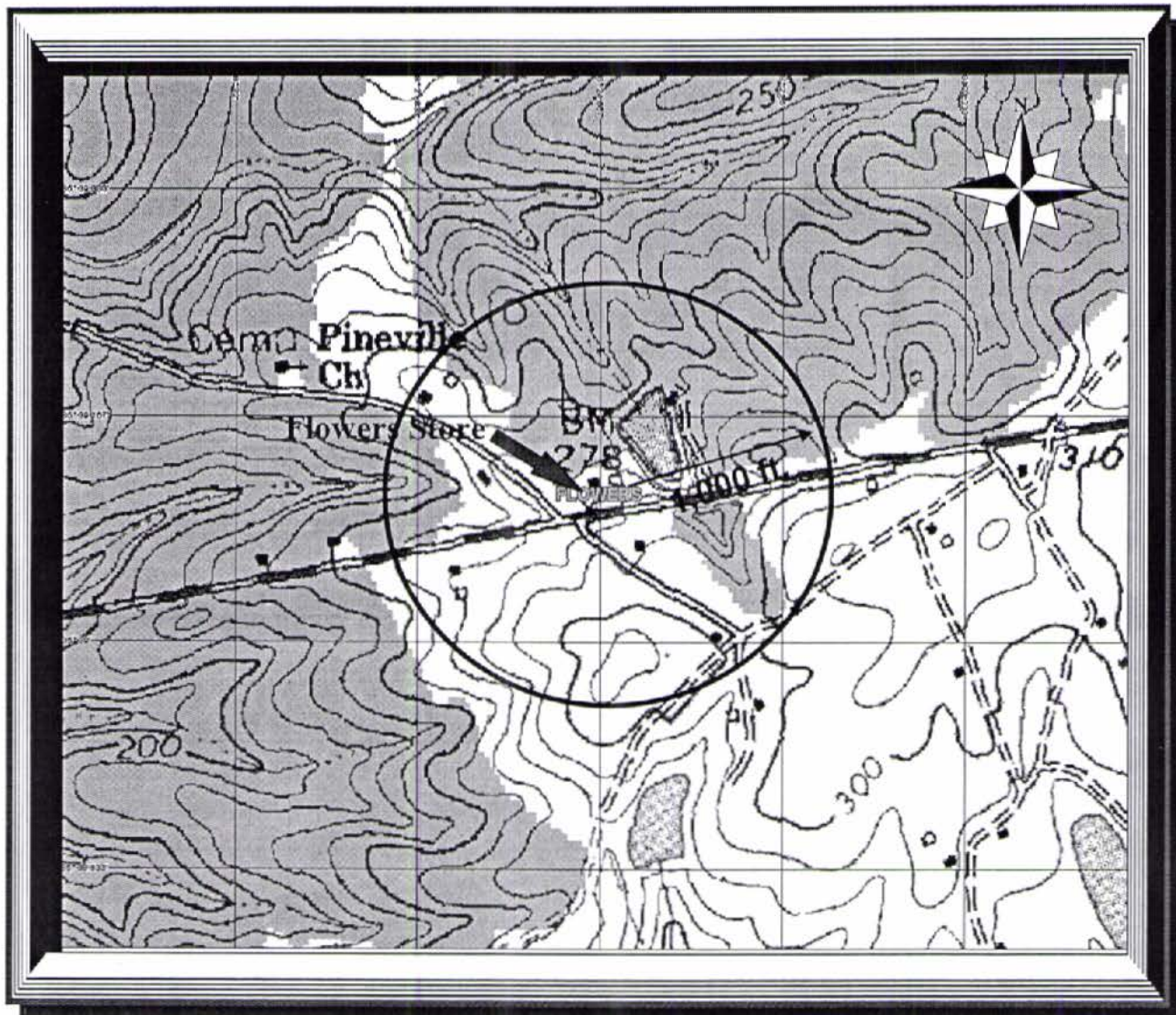
1. Sample Analytical Results – Soil

### C. Appendices

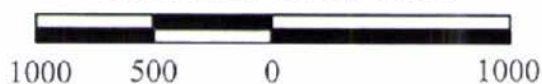
- Appendix A: Site Investigation Report (GW/UST 2 Form)
- Appendix C: Certificate of Tank Disposal
- Appendix E: Complete Chain-of-Custody Records
- Appendix F: Laboratory Analytical Records

# **FIGURES**





**GRAPHIC SCALE: FEET**



**CONTOUR INTERVAL: 10 FEET**

**QUADRANGLE LOCATION**



**FLOWERS, NORTH CAROLINA**

7.5' QUADRANGLE  
N3539 - W7821/7.5

**AGRA ENVIRONMENTAL**

POST OFFICE BOX 5611  
CARY, NORTH CAROLINA 27512

DIAGRAM #:

06-0619

DATE:

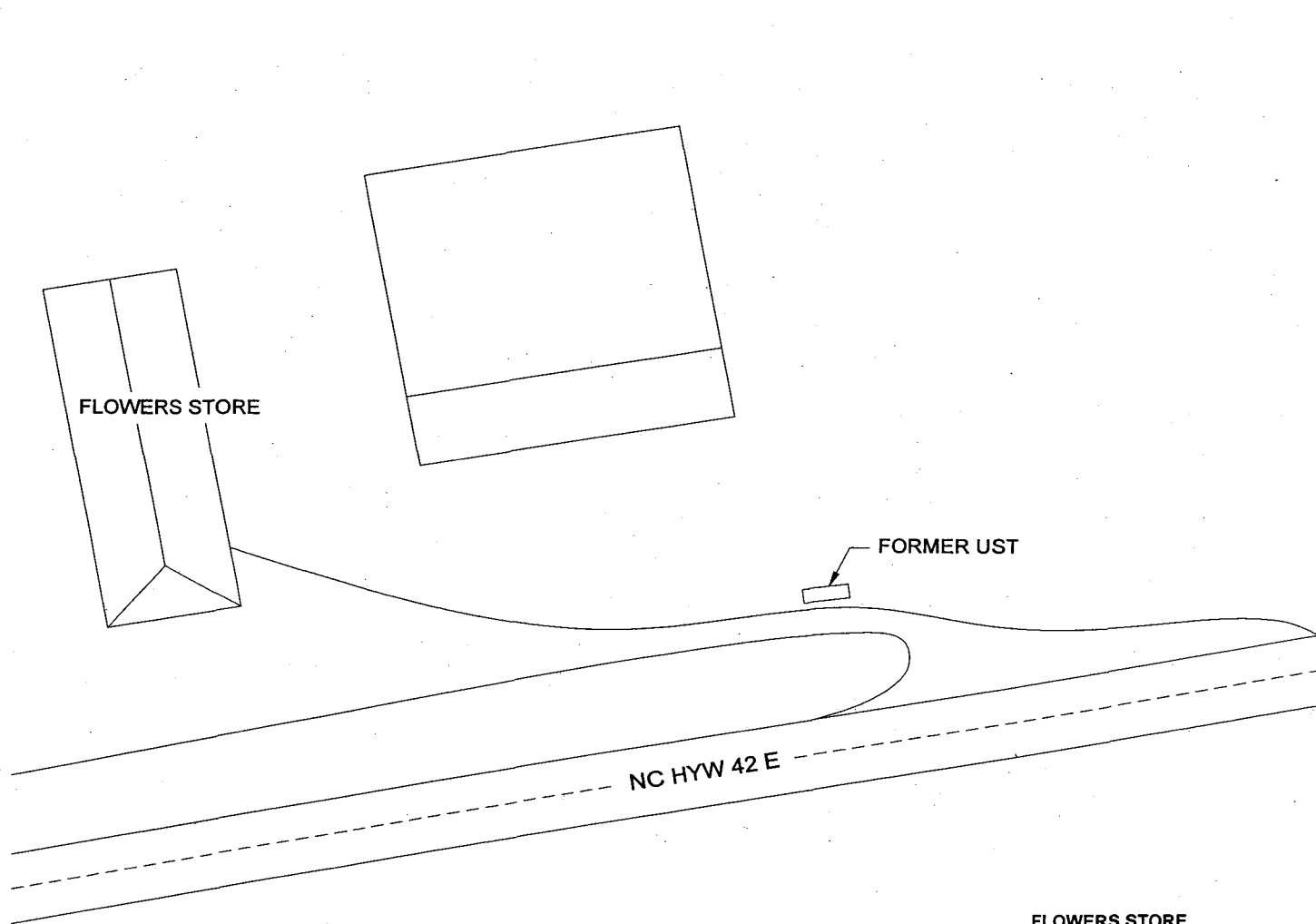
6/19/06

SCALE:

1:12,000

FIGURE # 1

**SITE LOCATION AND  
REGIONAL TOPOGRAPHY  
FLOWERS STORE, CLAYTON  
JOHNSON COUNTY, NORTH CAROLINA**

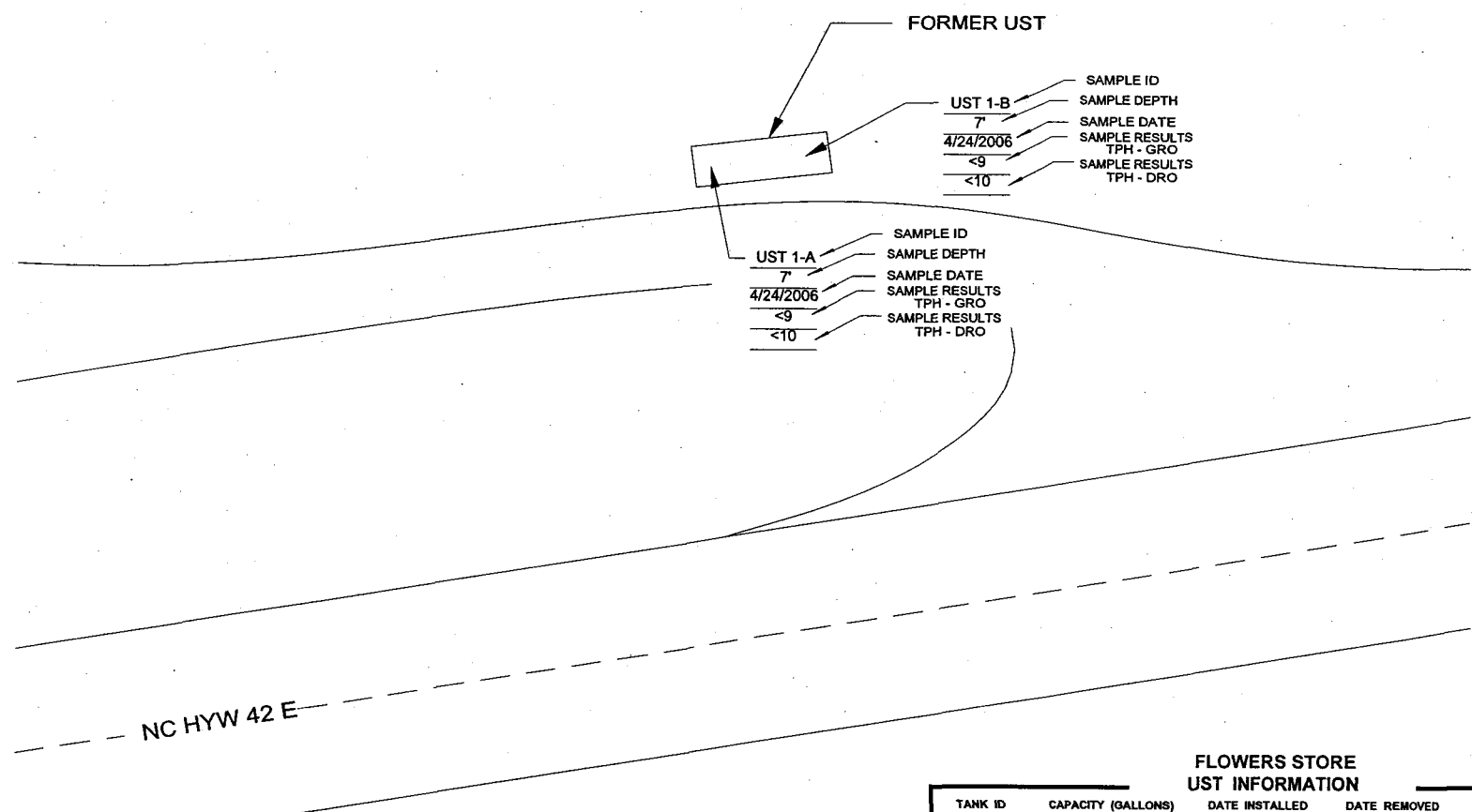
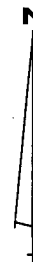


**FLOWERS STORE  
UST INFORMATION**

TANK ID	CAPACITY (GALLONS)	DATE INSTALLED	DATE REMOVED	PRODUCT	STATUS
1	1,000	UNKNOWN	4/24/2006	Gasoline	P
STATUS: C = CURRENTLY IN USE P = PERMANENTLY CLOSED BY REMOVAL					

Project No.: 17217	Drawing No.: 0519060101	Project Title: Figure 2 Site Diagram FLOWERS STORE CLAYTON, NORTH CAROLINA	<b>AGRA ENVIRONMENTAL</b> Cary, North Carolina
Checked By: RBS	Scale: 1" = 50'		
Drawn By: MAC	Date: 5/19/06		





FORMER UST

UST 1-B  
7'  
4/24/2006  
<9  
<10

SAMPLE ID  
SAMPLE DEPTH  
SAMPLE DATE  
SAMPLE RESULTS  
TPH - GRO  
SAMPLE RESULTS  
TPH - DRO

UST 1-A  
7'  
4/24/2006  
<9  
<10

SAMPLE ID  
SAMPLE DEPTH  
SAMPLE DATE  
SAMPLE RESULTS  
TPH - GRO  
SAMPLE RESULTS  
TPH - DRO

NC HWY 42 E

**LEGEND**

UST 1-A  
7'  
4/24/2006  
<9  
<10

SAMPLE ID  
SAMPLE DEPTH  
SAMPLE DATE  
SAMPLE RESULTS  
TPH - GRO  
SAMPLE RESULTS  
TPH - DRO

**FLOWERS STORE  
UST INFORMATION**

TANK ID	CAPACITY (GALLONS)	DATE INSTALLED	DATE REMOVED	PRODUCT	STATUS
1	1,000	UNKNOWN	4/24/2006	Gasoline	P
STATUS: C = CURRENTLY IN USE P = PERMANENTLY CLOSED BY REMOVAL					

Project No.: 17217	Drawing No.: 0519060102
Checked By: RBS	Scale: 1" = 15'
Drawn By: MAC	Date: 5/19/06

Project Title: Figure 3  
Sample Location Diagram  
FLOWERS STORE  
CLAYTON, NORTH CAROLINA

**AGRA  
ENVIRONMENTAL**  
Cary, North Carolina

# **TABLES**

# **TABLE 1**

## **SAMPLE ANALYTICAL RESULTS – SOIL**

April 24, 2006

**Flowers Store  
4121 NC Hwy 42 East  
Clayton, Johnston County, North Carolina  
Incident # 17217**

SAMPLE	DATE COLLECTED	DEPTH (FEET)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
UST 1A	4/24/06	6.0'	<9	<10
UST 1B	4/24/06	6.0'	<9	<10

TPH - total petroleum hydrocarbons  
GRO - gasoline range organics  
DRO - diesel range organics  
mg/kg - parts per million

# **APPENDIX A**

## **SITE INVESTIGATION REPORT FOR CLOSURE OR CHANGE-IN-SERVICE OF UST (GW/UST-2 FORM)**

# UST-2

## Site Investigation Report for Permanent Closure or Change-in-Service of UST

**FOR TANKS  
IN  
NC**

### Return completed form to:

The DWM Regional office in the area the facility is located. SEE MAP ON THE BACK OF THIS FORM FOR REGIONAL OFFICE ADDRESSES. Return the yellow copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED".

STATE USE ONLY:

I.D. # \_\_\_\_\_

Date Received \_\_\_\_\_

### I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity) Mr. David M. Flowers  
 Street Address 4181 NC Hwy 42 E  
 City Clayton County Johnson  
 State North Carolina Zip Code 27527  
 Area Code 919 Phone Number 553-4044

### II. LOCATION OF TANKS

Facility Name or Company Flowers Store  
 Facility ID # (if known) \_\_\_\_\_  
 Street Address 4181 NC Hwy 42 E  
 City Clayton Johnson Zip Code 27527  
 Area Code N/A Phone Number \_\_\_\_\_

### III. CONTACT PERSONNEL

Name Mark Creel Job Title Project Geologist Tel. No. 919-858-5350  
 Closure Contractor ECS, LLC Address Sanford, NC Tel. No. 919-775-1327  
 Primary Consultant Agri-Environment Address Cary, NC Tel. No. 919-858-5350  
 Lab Analytics Address Ashland, VA Tel. No. 804-365-3000

### IV. UST INFORMATION

### V. EXCAVATION CONDITION

### VI. ADDITIONAL INFORMATION

Tank No.	Size in Gallons	Tank Dimensions	Last Contents	Water in excavation		Free product		Notable odor or visible soil contamination	
				Yes	No	Yes	No	Yes	No
<u>1</u>	<u>1000</u>	<u>46" x 12'</u>	<u>Gasoline</u>		<u>X</u>		<u>X</u>		<u>X</u>

See reverse side of pink copy (owner's copy) for additional information required by NC DWM in the written report and sketch.

**NOTE:** If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

### VII. CHECKLIST (CHECK THE ACTIVITIES COMPLETED)

#### PERMANENT CLOSURE

(For Removal or Abandonment-in-Place)

- ☐ Contact local fire marshal
- ☒ Notify DWM Regional Office before abandonment
- ☐ Drain and flush piping into tank
- ☒ Remove all product and residuals from tank
- ☒ Excavate down to tank
- ☒ Clean and inspect tank
- ☒ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps, and all other tank fixtures
- ☒ Cap or plug all lines except the vent and fill lines
- ☒ Purge the tank of all product and flammable vapors
- ☒ Cut one or more large holes in the tank
- ☒ Backfill the area

Date tank(s) Permanently Closed: 4/24/06

Date of Change In-service: \_\_\_\_\_

#### ABANDONMENT IN PLACE

- ☐ Fill tank until material overflows tank opening
- ☐ Plug or cap all openings
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used --specify \_\_\_\_\_

#### REMOVAL

- ☒ Create vent hole
- ☐ Label tank
- ☒ Dispose of tank in approved manner. Final tank destination:

ECS, LLC.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete

Print name and official title of owner or owner's authorized representative

Mark A Creel, Project Geologist

Signature

[Signature]

Date Signed

6/19/06

# **APPENDIX B**

## **CERTIFICATE OF TANK DISPOSAL**

# Certificate of Tank Disposal

presented to

*Agra Environmental*

This document verifies the following 1000 gallons of Diesel was properly cleaned, transported, and disposed of in accordance with all applicable State and Federal regulations

Environmental Contracting Services LLC

4-24-06

Date

*John W. Klein*

Signature

# **APPENDIX C**

## **COMPLETE CHAIN-OF-CUSTODY RECORDS**



Carg NC 27572-

**SPECIAL INSTRUCTIONS:**

**RUSH ANALYSIS**

124 HOUR

100

# CHAIN OF CUSTODY RECORD



AQUEOUS  
 OIL  
 S-SOLUBLE

Lab ID	Sample Identification	Date & Time
--------	-----------------------	-------------

## Sample Identification

## Date & Time

UST 1 - A	4/24/06 11:45
-----------	---------------

45T 4-B

[illegible][illegible]

100

10

10

1

Year	Total (%)	White (%)
1950	10	8
1960	11	9
1970	12	10
1980	13	11
1990	14	12
2000	15	13
2010	16	14
2020	17	14.5
2030	17.5	15
2040	18	15.5
2050	18.5	16

PERCENT

YEAR

Actual

Projected

1

THE UNIVERSITY OF CHICAGO

[illegible]

mc/5

Substance	Chloride
-----------	----------

1000

[illegible]

**RETAIN BACK COPY FOR PERSONAL RECORDS**

ENVCO-01 (REV. 2001-0)



**8040 Villa Park Drive, Suite 250**

**Richmond, Virginia 23228**

Phone (804) 264-7100

**Toll Free (800) 888-8061**

**Fax (804) 264-8873**

# **APPENDIX D**

## **LABORATORY ANALYTICAL RECORDS**



Analytics Corporation  
8040 Villa Park Drive, Suite 250  
Richmond, VA 23228  
Phone: (804)264-7100  
Fax: (804)264-8873

April 28, 2006

LEE COVINGTON  
AGRA ENVIRONMENTAL  
SUITE 104  
539 KEISLER DRIVE  
CARY, NC 27511

Purchase Order:

Client ID: FLOWERS STORE  
Workorder: 6116011

Dear LEE COVINGTON:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, April 26, 2006. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please call the Client Services Dept. at 1-800-888-8061.

Sincerely,

DAWN CASTO

Unless otherwise specified all analyses of solid materials are based on dry weight.

The signatures at the end of this report certify that the results are based on the referenced methods and unless otherwise noted meet the requirements of NELAC.

Reported results relate only to the items tested, as received by the laboratory.

On-site analysis (analysis ASAP) is recommended for the following tests: pH, temperature, dissolved oxygen, residual chlorine and sulfite. When performed off-site, these tests do not meet the NELAC standards.

Abbreviations:

ug/L = micrograms per Liter, mg/L = milligrams per Liter, ug/g = micrograms per gram, mg/kg = milligrams per kilogram  
ug/wp = micrograms per wipe, ug/ml = micrograms per milliliter, uS = microsiemens per centimeter at 25 degrees  
ppb = parts per billion, DF = Dilution Factor

Page 1 of 4

**CERTIFICATE OF ANALYSIS**

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without the written consent of Analytics Corporation.



Analytics Corporation  
8040 Villa Park Drive, Suite 250  
Richmond, VA 23228  
Phone: (804)264-7100  
Fax: (804)264-8873

### SAMPLE SUMMARY

Workorder 6116011 FLOWERS STORE

---

Lab ID	Sample ID	Matrix	Received Cond	Date Collected	Date Received
6116011001	UST 1-A	Soil/Solids/Sedi	OK	4/24/2006 11:45	4/26/2006 11:41
6116011002	UST 1-B	Soil/Solids/Sedi	OK	4/24/2006 11:50	4/26/2006 11:41

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Richmond, VA 23228  
Phone: (804)264-7100  
Fax: (804)264-8873

## ANALYTICAL RESULTS

Workorder 6116011 FLOWERS STORE

Lab ID: 6116011001

Date Received: 4/26/2006 11:41 Matrix: Soil/Solids/Sediment

Sample ID: UST 1-A

Date Collected: 4/24/2006 11:45 TYPE: GRAB

Parameters	Results	Units	Report Limit	DF	Prepared	By	Analyzed	By	Qu	RegLmt
------------	---------	-------	--------------	----	----------	----	----------	----	----	--------

### Physical Properties

Analysis Desc: SW-846 3550  
sec 7.2

Analytical Method: SW-846 3550 sec 7.2

Percent Moisture	14.8	%		1			04/27/2006 11:31	DM
------------------	------	---	--	---	--	--	------------------	----

### Gasoline Range Organics

Analysis Desc: SW-846 8015B

Preparation Method: SW-846 5035

Analytical Method: SW-846 8015B

TPH - GRO	<9	mg/Kg	9	1	04/26/2006 14:00 SJS	04/26/2006 17:16 SJS
-----------	----	-------	---	---	----------------------	----------------------

Diesel Range Organics (DRO)	<10.0	mg/Kg	10.0	1	04/27/2006 13:15 DM	04/27/2006 16:52 MBC
-----------------------------	-------	-------	------	---	---------------------	----------------------

## CERTIFICATE OF ANALYSIS

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Analytics Corporation  
8040 Villa Park Drive, Suite 250  
Richmond, VA 23228  
Phone: (804)264-7100  
Fax: (804)264-8873

## ANALYTICAL RESULTS

Workorder 6116011 FLOWERS STORE

Lab ID: 6116011002

Date Received: 4/26/2006 11:41 Matrix: Soil/Solids/Sediment

Sample ID: UST-1-B

Date Collected: 4/24/2006 11:50 TYPE: GRAB

Parameters	Results	Units	Report Limit	DF	Prepared	By	Analyzed	By	Qu	RegLmt
------------	---------	-------	--------------	----	----------	----	----------	----	----	--------

### Physical Properties

Analysis Desc: SW-846 3550  
sec 7.2

Analytical Method: SW-846 3550 sec 7.2

Percent Moisture	11.4	%		1			04/27/2006 11:32	DM
------------------	------	---	--	---	--	--	------------------	----

### Gasoline Range Organics

Analysis Desc: SW-846 8015B

Preparation Method: SW-846 5035

Analytical Method: SW-846 8015B

TPH - GRO	<9	mg/Kg	9	1	04/26/2006 14:00	SJS	04/26/2006 17:54	SJS
-----------	----	-------	---	---	------------------	-----	------------------	-----

Diesel Range Organics (DRO)	<10.0	mg/Kg	10.0	1	04/27/2006 13:16	DM	04/27/2006 17:14	MBC
-----------------------------	-------	-------	------	---	------------------	----	------------------	-----

## CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Analytics Corporation.



Account Name: Agra Env.

## Sample Container Receipt Form:

6-11-05

Sample Identification	UST 1-A	UST 1-B					
Type of Container	802502	802502					
Number of Containers	1	1					
Temperature on Arrival	NA	NA					
pH on Arrival	NA	NA					
Chlorine on Arrival (ppm)	NA	NA					
VOA Sample Condition	NA	NA					
General Condition	good	good					
Notes and comments							

P=Plastic; G=Glass, Am=Amber, VOA=VOA vial

\*\* Samples received in \_\_\_\_\_ for VOC's in soil. See attached for details on sample containers for low level VOC's in soil.

Sample Custodian Adilbenza Date 4/26/00

**CRAWFORD**  
**ENVIRONMENTAL**  
**SERVICES**

FINAL DRAFT

November 1, 2012

Mr. Mark Petermann  
North Carolina Department of Environment and Natural Resources  
DWM/UST Section  
1637 Mail Service Center  
Raleigh, North Carolina 27699-1637

**RE: Groundwater Monitoring Event Letter/Report: October 2012**  
**Gladys Flowers Store**  
**4181 NC HWY 42 E**  
**Clayton, Johnston County**  
**IN: TF-17217**  
**Contract Number: 4351-4C**

Dear Mr. Petermann:

Crawford Environmental Services (CES) personnel were at the referenced site located at 4181 NC HWY 42E in Clayton, Johnston County, NC on October 4, 2012, to sample temporary monitoring wells TW-1, TW-2, TW-3 and TW-4, conduct a receptor update, survey the temporary well head elevations, and determine if water supply well WSW-1 had been abandoned. Temporary well TW-1, TW-2 and TW-4 were not located, appear to have been destroyed and therefore were not sampled. The wells were not surveyed as only monitoring well remained at the site. Based upon site observations and discussion with the property owner, the property utilizing WSW-1 has been connected to public water and WSW-1 has been abandoned.

Prior to sampling, a depth to water measurement was collected from the temporary monitoring well TW-3 using an electronic water level meter. The well was then purged until dry using a new dedicated disposable bailer and new nylon cord. Upon purging, groundwater samples were collected from the well using the dedicated bailer. The samples were transferred to laboratory prepared containers, immediately placed on ice in a cooler and transported under chain-of-custody to Shealy Environmental Services, Inc., a NC Certified laboratory. The samples were analyzed for volatile organic compounds by EPA Method 6200B + IPE, MTBE and EDB. Based upon the analytical report, no targeted compounds were detected in the samples collected from monitoring well TW-1.

The subject property contains two buildings formerly utilized for gasoline retail and auto repair. The site is located in a sparsely populated rural/residential setting within the jurisdictional limits of Clayton, North

**MID-ATLANTIC REGION**

15 CHURCH AVENUE, SW  
ROANOKE, VIRGINIA 24011  
OFFICE 540 343.6256  
FAX 540 343.6259

ccrawford@crawfordenvironmental.com

**SOUTHEAST REGION**

104 CORPORATE BLVD, SUITE 412  
WEST COLUMBIA, SOUTH CAROLINA 29169  
OFFICE 803 708.0079  
FAX 803 708.8137

dobrien@crawfordenvironmental.com

**SOUTHEAST REGION**

515 S. NEW HOPE ROAD, SUITE 104  
RALEIGH, NORTH CAROLINA 27610  
OFFICE 919 235.3335  
FAX 919 235.3345

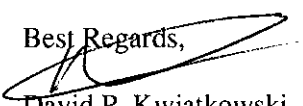
davidpkwi@crawfordenvironmental.com



Carolina (Figure 1). Ground cover is predominantly grass, gravel and building. The site is located at approximate elevation of 276 feet above mean sea level. Ground surface grade generally slopes radially to the north. The nearest surface water feature is a manmade pond located approximately 200 feet to the northeast of the site. Public water is available to the site and surrounding properties. Three active private potable water supply wells were observed within 1,500 feet of the site. The site is not located in the Coastal Plain Physiographic Region. There are no Wellhead Protection Areas located in the vicinity of the site. The nearest place of public gathering is the Pineville Chapel Church located approximately 1,400 feet to the northwest of the site. The nearest residence is located on the adjacent properties to the north and northeast.

The update water supply well information is presented in Table 1. The update adjacent property ownership information is presented in Table 2. Monitoring well details and depth to water measurements are included in Table 3. A summary of the analytical results is included in Table 4. Figures showing the site location, monitoring well locations and supply well locations as depicted are presented in Appendix A. The laboratory analytical report for the September 21, 2012 groundwater sampling event is included in Appendix B. Field notes are included in Appendix C.

Best Regards,



David P. Kwiatkowski, P.G.  
NC Division Manager

Enclosures

## TABLES

**TABLE 1**  
**WATER SUPPLY WELL INFORMATION**  
**FORMER FLOWERS STORE**  
**CLAYTON, JOHNSTON COUNTY**  
**INCIDENT No. 17217**

WELL ID	WELL OWNER/USER	Owner Address	Property Address	Phone Number	WELL USE	DISTANCE FROM SOURCE AREA (FT)
WSW-1	Pamela Flowers	105 South Ridge Drive Garner, NC 27529	4181 HWY 42E	Not Listed	Abandoned Municipal Water	525
WSW-2	Jimmy Flowers	4116 HWY 42 E	4116 HWY 42 E	919-553-5618	Municipal Water	525
WSW-3	Peggy Flowers	4400 HWY 42E	4400 HWY 42E	919-553-1045	Municipal Water	1,100
WSW-4	Brandi Dean Flowers	303 Smiths Winding Lane Pikeville, NC 27863	4300 HWY 42 E	919-553-8504	Potable	900
WSW-5	John Purdon	160 Motorcycle Road	160 Motorcycle Road	919-556-8966	Potable	550
WSW-6	Pineville Chapel Church	270 Motorcycle Road	270 Motorcycle Road	919-550-0242	Potable	1,400

**TABLE 2**  
**PROPERTY OWNERS/OCCUPANTS**  
**FORMER FLOWERS STORE**  
**CLAYTON, JOHNSTON COUNTY**  
**INCIDENT No. 17217**

TAX PARCEL NUMBER/ MAP ID	OWNER/OCCUPANT NAME (Last, First MI)	MAILING ADDRESS*	PROPERTY ADDRESS*
1 (SITE)	Motorcycle Road LLC	935 Shotwell Rd. Ste 106	Not listed
2	Pamela Flowers	105 South Ridge Drive Garner, NC 27529	4181 HWY 42E
3	John Purdon	160 Motorcycle Road	160 Motorcycle Road
4	Russell Ragland	132 Torrey Pines Road	120 Motorcycle Road
5	M&R Land LLC	3700 Computer Drive Ste 280	Not Listed
6	Pineville Chapel Church	270 Motorcycle Road	270 Motorcycle Road
7	Peggy Flowers	4400 HWY 42E	4400 HWY 42E
8	Peggy Flowers	4400 HWY 42E	3896 HWY 42E
9	Peggy Flowers	4400 HWY 42E	10 Portfino Drive
10	Jimmy Flowers	1270 B North Brightlief Blvd Smithfield, NC 27577	Not Listed
11	Jimmy Flowers	4116 HWY 42 E	4116 HWY 42 E
12	Brandi Dean Flowers	303 Smiths Winding Lane Pikeville, NC 27863	4300 HWY 42 E
13	Rebecca Flowers	4880 HWY 42 E	Not Listed
14	DWF Development Inc.	4880 HWY 42 E	44 Syphrona Circle
15	Johnston County	P.O. Box 1049 Smithfield, NC 27577	Not Listed
16	Melanie Ford	4545 little Creek Church Road	35 Syphrona Circle
17	DWF Development Inc.	4880 HWY 42 E	34 Syphrona Circle
18	John Turcotte	147 Kollinova Drive	147 Kollinova Drive
19	Christopher Spagnoletti	603 Birkdale Drive	177 Kollinova Drive
20	Curt Hallinger	142 Helena Lane	187 Kollinova Drive

**TABLE 3**  
**MONITORING WELL CONSTRUCTION INFORMATION**  
**FORMER FLOWERS STORE**  
**CLAYTON, JOHNSTON COUNTY**  
**INCIDENT No. 17217**

Well ID	Date Installed	Well Casing depth (ft.)	Screened Interval (ft BLS)	Depth of Well (BLS)	Top of Casing Elevation* (ft.)	Date Water Level Measured	Depth to Water	Free Product Thickness (ft.)**	Groundwater Elevation*	Comments
TW-1	8/28/08	20	20 - 35	35	279.24	9/2/08	34.72	NA	244.52	
					279.24	9/30/09	33.96	NA	245.28	
					279.24	10/4/12	NM	NA	NM	WELL DESTROYED
TW-2	8/28/08	20	20 - 35	35	279.30	9/2/08	23.28	NA	256.02	
					279.30	9/30/09	22.20	NA	257.10	
					279.30	10/4/12	NM	NA	NM	WELL DESTROYED
TW-3	8/28/08	20	20 - 35	35	278.21	9/2/08	27.50	NA	250.71	
					278.21	9/30/09	26.61	NA	251.60	
					278.21	10/4/12	29.30	NA	248.91	
TW-4	8/28/08	20	20 - 35	35	277.86	9/2/08	35.74	NA	242.12	
					277.86	9/30/09	DRY	NA	DRY	
					277.86	10/4/12	NM	NA	NM	WELL DESTROYED

\* - Reference Point for Elevation Measurements is on-site USGS Benchmark elevation of 278.0 ft.

\*\* - Groundwater elevation calculated by [Top of Casing Elevation - Depth to water] + [Free Product Thickness x 0.8581]

TABLE 4

## SUMMARY OF GROUNDWATER SAMPLING ANALYTICAL RESULTS

FORMER FLOWERS STORE  
CLAYTON, JOHNSTON COUNTY  
INCIDENT No. 17217

ANALYTICAL METHOD		6200B											8270	MADEP VPH/EPH				3030C		
		CONTAMINANTS OF CONCERN/CONCENTRATION (µg/L)																		
WELL ID	Date Collected	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	MTBE	IPE	EDB (504.1)	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Tetrachloroethene	Isopropylbenzene	n-Propylbenzene	di-n-Butyl phthalate	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36Aliphatics	C9-C122 Aromatics	Lead
TW-1	9/2/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.68	ND	67	91	350	250
	9/30/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89	ND	ND	NA	NA	NA	NA	NA	NA
	10/4/12	NOT SAMPLED - WELL DESTROYED																		
TW-2	9/2/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	9/30/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.71	ND	ND	NA	NA	NA	NA	NA	ND
	10/4/12	NOT SAMPLED - WELL DESTROYED																		
TW-3	9/2/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	9/30/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	11
	10/4/12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
TW-4	9/2/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
	9/30/09	NOT SAMPLED - WELL DRY																		
	10/4/12	NOT SAMPLED - WELL DESTROYED																		
2L Standard (µg/L)	1	600	600	84500	85500	20000	70000	50	6000	28,500	25,000	700	25000	30,000	700	420	4,200	42,000	210	15
GCL (µg/L)	5000	260000	84500	85500	85500	20000	70000	50	6000	28,500	25,000	700	25000	30,000	NL	NL	NL	NL	NL	15,000

NA - Not Analyzed

ND - Not Detected

J - Estimated Concentration

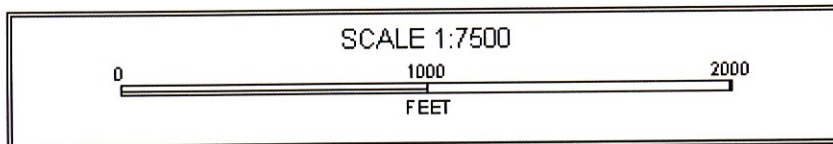
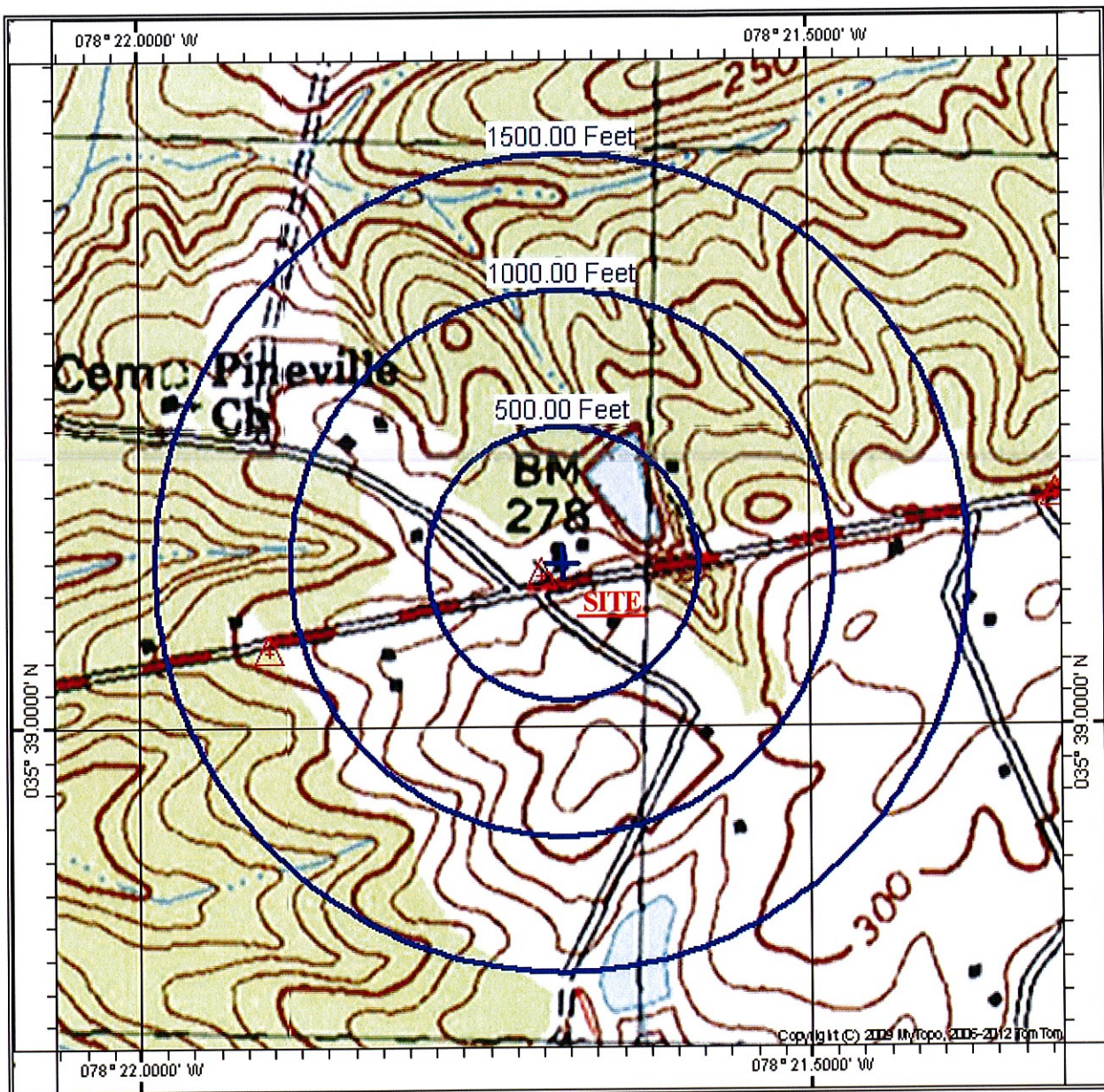
**Bold** - Concentration exceeds 2L Standard.**Shaded** - Concentration exceeds GCL.

## **APPENDICES**

## **APPENDIX A**

### **Figures**





Reference: Terrain Navigator Pro, Ver. 9.1, USGS 7.5 Minute Series Quadrangle, Flowers, NC, 2000.  
Contour interval = 10 feet.



Figure 10a

Site Location  
Former Gladys Flowers Store  
4181 NC Highway 42 East  
Clayton, Johnston County, North Carolina

Figure 1

GWM Report  
October 2012

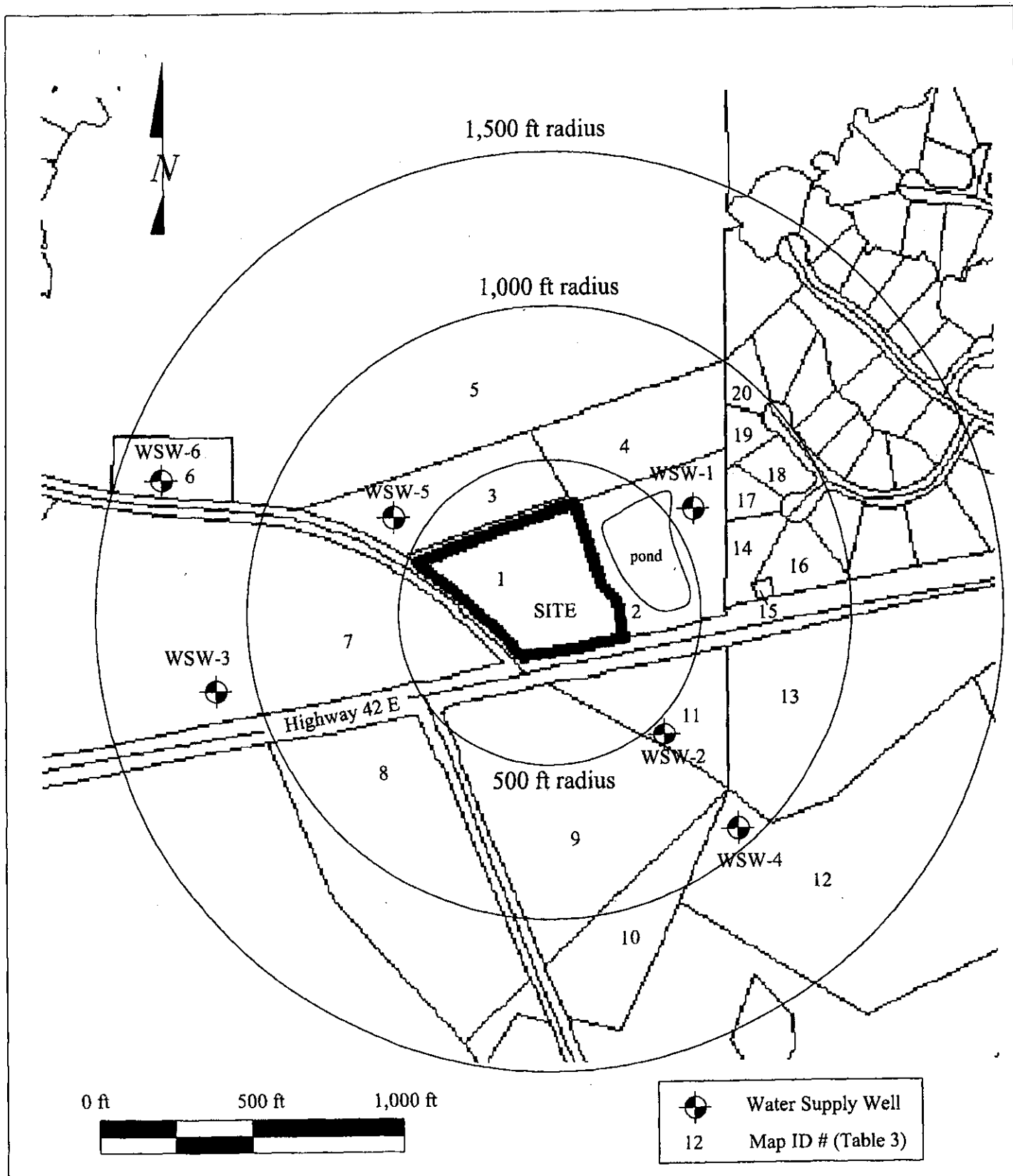
INCIDENT = 17217

**CRAWFORD**  
**ENVIRONMENTAL**  
**SERVICES**

515 S. NewHope Rd., Suite 104  
Raleigh, NC 27610

919-235-3335 (office)  
919-235-3345 (fax)

DR: JES	DATE: 10/10/12
BY: JES	
APP'D: JES	
SCALE: AS SHOWN	
DES PROJ NO: 16-014	



Surrounding Property Map  
 Flowers Store, Incident # 17217  
 4181 NC 42 E  
 Clayton, Johnston County, NC

Agra Environmental, Inc.

P.O. Box 5611 Cary, NC 27512

Figure No:

3

Scale:

As Shown

Drawn By:

CJH

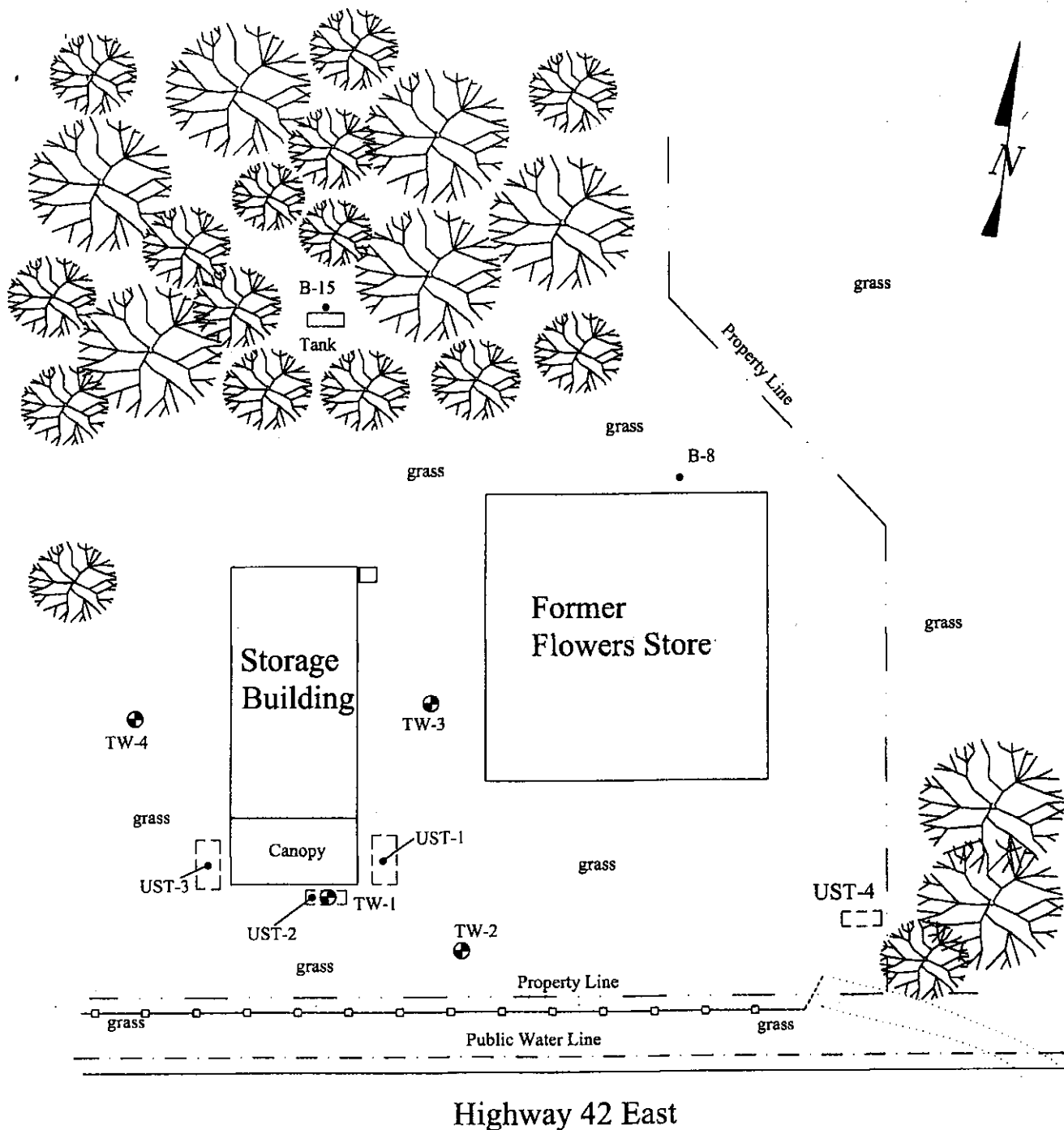
Checked By:

RS

Date:

10/22/09

Project No:



0 ft 50 ft 100 ft

- ⊕ Temporary Monitoring Well
- [- - -] Former UST Location
- Soil Boring Location

Site Map  
Flowers Store, Incident # 17217  
4181 NC 42 E  
Clayton, Johnston County, NC

Agra Environmental, Inc.  
P.O. Box 5611 Cary, NC 27512

Figure No: 2	Scale: As Shown	Drawn By: CJH	Checked By: RS	Date: 10/22/09	Project No:
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## **APPENDIX B**

### **Laboratory Certificate of Analysis and Chain-of-Custody Documentation**

# SHEALY ENVIRONMENTAL SERVICES, INC.

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## Report of Analysis

### NCDENR-DWM-UST Section

1637 Mail Service Ctr.  
Raleigh, NC 27699  
Attention: Linda Blalock

Project Name: **Flowers Store**

Project Number: **17217**

Lot Number: **NJ10022**

Date Completed: **10/22/2012**

  
Lucas Odom  
Project Manager



This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • •

# SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

## Case Narrative NCDENR-DWM-UST Section Lot Number: NJ10022

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

### GC/MS VOC

Sample -001 was analyzed on the day of that it went out of hold. This sample was collected on 10/04/12 and was analyzed on 10/18/12.

The LCS/LCSD associated with batch 95669 recovered 1,1,2-Trichloro-1,2,2-Trifluoroethane above method criteria. No corrective action was required as the associated sample was non-detect for this compound.

# SHEALY ENVIRONMENTAL SERVICES, INC.

---

## Sample Summary NCDENR-DWM-UST Section Lot Number: NJ10022

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	TW-3	Aqueous	10/04/2012 1030	10/10/2012

(1 sample)

# SHEALY ENVIRONMENTAL SERVICES, INC.

---

## Executive Summary NCDENR-DWM-UST Section Lot Number: NJ10022

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
(0 detections)								



Description: TW-3

Matrix: Aqueous

Date Sampled: 10/04/2012 1030

Date Received: 10/10/2012

## Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	6200B	SM 6200B	1	10/18/2012 1948	BDC		95669		
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Benzene	71-43-2	SM 6200B	ND	H	0.50	0.027	ug/L	1	
Bromobenzene	108-86-1	SM 6200B	ND	H	0.50	0.027	ug/L	1	
Bromochloromethane	74-97-5	SM 6200B	ND	H	0.50	0.055	ug/L	1	
Bromodichloromethane	75-27-4	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Bromoform	75-25-2	SM 6200B	ND	H	0.50	0.010	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	SM 6200B	ND	H	0.50	0.20	ug/L	1	
n-Butylbenzene	104-51-8	SM 6200B	ND	H	0.50	0.017	ug/L	1	
sec-Butylbenzene	135-98-8	SM 6200B	ND	H	0.50	0.010	ug/L	1	
tert-Butylbenzene	98-06-6	SM 6200B	ND	H	0.50	0.037	ug/L	1	
Carbon tetrachloride	56-23-5	SM 6200B	ND	H	0.50	0.085	ug/L	1	
Chlorobenzene	108-90-7	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Chloroethane	75-00-3	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Chloroform	67-66-3	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	SM 6200B	ND	H	0.50	0.17	ug/L	1	
2-Chlorotoluene	95-49-8	SM 6200B	ND	H	0.50	0.059	ug/L	1	
4-Chlorotoluene	106-43-4	SM 6200B	ND	H	0.50	0.019	ug/L	1	
Dibromochloromethane	124-48-1	SM 6200B	ND	H	0.50	0.17	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	SM 6200B	ND	H	0.50	0.061	ug/L	1	
Dibromomethane (Methylene bromide)	74-95-3	SM 6200B	ND	H	0.50	0.094	ug/L	1	
1,2-Dichlorobenzene	95-50-1	SM 6200B	ND	H	0.50	0.17	ug/L	1	
1,3-Dichlorobenzene	541-73-1	SM 6200B	ND	H	0.50	0.17	ug/L	1	
1,4-Dichlorobenzene	106-46-7	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Dichlorodifluoromethane	75-71-8	SM 6200B	ND	H	0.50	0.071	ug/L	1	
1,1-Dichloroethane	75-34-3	SM 6200B	ND	H	0.50	0.054	ug/L	1	
1,2-Dichloroethane	107-06-2	SM 6200B	ND	H	0.50	0.023	ug/L	1	
1,1-Dichloroethene	75-35-4	SM 6200B	ND	H	0.50	0.094	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	SM 6200B	ND	H	0.50	0.087	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	SM 6200B	ND	H	0.50	0.079	ug/L	1	
1,2-Dichloropropane	78-87-5	SM 6200B	ND	H	0.50	0.081	ug/L	1	
1,3-Dichloropropane	142-28-9	SM 6200B	ND	H	0.50	0.019	ug/L	1	
2,2-Dichloropropane	594-20-7	SM 6200B	ND	H	0.50	0.060	ug/L	1	
1,1-Dichloropropene	563-58-6	SM 6200B	ND	H	0.50	0.074	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	SM 6200B	ND	H	0.50	0.090	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	SM 6200B	ND	H	0.50	0.18	ug/L	1	
Diisopropyl ether (IPE)	108-20-3	SM 6200B	ND	H	0.50	0.052	ug/L	1	
Ethanol	64-17-5	SM 6200B	ND	H	100	33	ug/L	1	
Ethylbenzene	100-41-4	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Hexachlorobutadiene	87-68-3	SM 6200B	ND	H	0.50	0.17	ug/L	1	
Isopropylbenzene (Cumene)	98-82-8	SM 6200B	ND	H	0.50	0.029	ug/L	1	
p-Isopropyltoluene (p-Cymene)	99-87-6	SM 6200B	ND	H	0.50	0.018	ug/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

Q = Surrogate failure

ND = Not detected at or above the MDL

J = Estimated result &lt; PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

L = LCS/LCSD failure

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

\* = Reportable result (only when report all runs)

S = MS/MSD failure

Description: TW-3

Matrix: Aqueous

Date Sampled: 10/04/2012 1030

Date Received: 10/10/2012

## Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	6200B	SM 6200B	1	10/18/2012 1948	BDC		95669

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Methyl tertiary butyl ether (MTBE)	1634-04-4	SM 6200B	ND	H	0.50	0.019	ug/L	1
Methylene chloride	75-09-2	SM 6200B	ND	H	0.50	0.17	ug/L	1
Naphthalene	91-20-3	SM 6200B	ND	H	0.50	0.17	ug/L	1
n-Propylbenzene	103-65-1	SM 6200B	ND	H	0.50	0.024	ug/L	1
Styrene	100-42-5	SM 6200B	ND	H	0.50	0.015	ug/L	1
1,1,1,2-Tetrachloroethane	630-20-6	SM 6200B	ND	H	0.50	0.057	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	SM 6200B	ND	H	0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	SM 6200B	ND	H	0.50	0.014	ug/L	1
Toluene	108-88-3	SM 6200B	ND	H	0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	SM 6200B	ND	LH	0.50	0.30	ug/L	1
1,2,3-Trichlorobenzene	87-61-6	SM 6200B	ND	H	0.50	0.17	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	SM 6200B	ND	H	0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	SM 6200B	ND	H	0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	SM 6200B	ND	H	0.50	0.031	ug/L	1
Trichloroethene	79-01-6	SM 6200B	ND	H	0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	SM 6200B	ND	H	0.50	0.051	ug/L	1
1,2,3-Trichloropropane	96-18-4	SM 6200B	ND	H	0.50	0.33	ug/L	1
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	SM 6200B	ND	H	0.50	0.17	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	SM 6200B	ND	H	0.50	0.17	ug/L	1
Vinyl chloride	75-01-4	SM 6200B	ND	H	0.50	0.065	ug/L	1
m+p - Xylenes	179601-23-1	SM 6200B	ND	H	0.50	0.17	ug/L	1
o - Xylenes	95-47-6	SM 6200B	ND	H	0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	H	104	52-138
Bromofluorobenzene	H	100	70-147
Toluene-d8	H	91	76-125

PQL = Practical quantitation limit    B = Detected in the method blank    E = Quantitation of compound exceeded the calibration range    H = Out of holding time    Q = Surrogate failure  
 ND = Not detected at or above the MDL    J = Estimated result < PQL and ≥ MDL    P = The RPD between two GC columns exceeds 40%    N = Recovery is out of criteria    L = LCS/LCSD failure  
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"    \* = Reportable result (only when report all runs)    S = MS/MSD failure

## QC Summary

# Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ95669-001

Matrix: Aqueous

Batch: 95669

Prep Method: 6200B

Analytical Method: SM 6200B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	0.50	0.027	ug/L	10/18/2012 1924
Bromobenzene	ND		1	0.50	0.027	ug/L	10/18/2012 1924
Bromochloromethane	ND		1	0.50	0.055	ug/L	10/18/2012 1924
Bromodichloromethane	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Bromoform	ND		1	0.50	0.010	ug/L	10/18/2012 1924
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	10/18/2012 1924
tert-Butylbenzene	ND		1	0.50	0.037	ug/L	10/18/2012 1924
sec-Butylbenzene	ND		1	0.50	0.010	ug/L	10/18/2012 1924
n-Butylbenzene	ND		1	0.50	0.017	ug/L	10/18/2012 1924
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	10/18/2012 1924
Chlorobenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Chloroethane	ND		1	0.50	0.17	ug/L	10/18/2012 1924
<b>Chloroform</b>	<b>0.18</b>	<b>J</b>	<b>1</b>	<b>0.50</b>	<b>0.17</b>	<b>ug/L</b>	<b>10/18/2012 1924</b>
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	10/18/2012 1924
4-Chlorotoluene	ND		1	0.50	0.019	ug/L	10/18/2012 1924
2-Chlorotoluene	ND		1	0.50	0.059	ug/L	10/18/2012 1924
Dibromochloromethane	ND		1	0.50	0.17	ug/L	10/18/2012 1924
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	10/18/2012 1924
Dibromomethane (Methylene bromide)	ND		1	0.50	0.094	ug/L	10/18/2012 1924
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	10/18/2012 1924
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	10/18/2012 1924
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	10/18/2012 1924
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	10/18/2012 1924
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	10/18/2012 1924
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	10/18/2012 1924
2,2-Dichloropropane	ND		1	0.50	0.060	ug/L	10/18/2012 1924
1,3-Dichloropropane	ND		1	0.50	0.019	ug/L	10/18/2012 1924
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	10/18/2012 1924
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	10/18/2012 1924
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	10/18/2012 1924
1,1-Dichloropropene	ND		1	0.50	0.074	ug/L	10/18/2012 1924
Diisopropyl ether (IPE)	ND		1	0.50	0.052	ug/L	10/18/2012 1924
Ethanol	ND		1	100	33	ug/L	10/18/2012 1924
Ethylbenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Hexachlorobutadiene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Isopropylbenzene (Cumene)	ND		1	0.50	0.029	ug/L	10/18/2012 1924
p-Isopropyltoluene (p-Cymene)	ND		1	0.50	0.018	ug/L	10/18/2012 1924
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	10/18/2012 1924
Methylene chloride	ND		1	0.50	0.17	ug/L	10/18/2012 1924
<b>Naphthalene</b>	<b>0.22</b>	<b>J</b>	<b>1</b>	<b>0.50</b>	<b>0.17</b>	<b>ug/L</b>	<b>10/18/2012 1924</b>
n-Propylbenzene	ND		1	0.50	0.024	ug/L	10/18/2012 1924

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ95669-001

Matrix: Aqueous

Batch: 95669

Prep Method: 6200B

Analytical Method: SM 6200B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Styrene	ND		1	0.50	0.015	ug/L	10/18/2012 1924
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	10/18/2012 1924
1,1,1,2-Tetrachloroethane	ND		1	0.50	0.057	ug/L	10/18/2012 1924
Tetrachloroethene	ND		1	0.50	0.014	ug/L	10/18/2012 1924
Toluene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	10/18/2012 1924
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
<b>1,2,3-Trichlorobenzene</b>	<b>0.25</b>	<b>J</b>	<b>1</b>	<b>0.50</b>	<b>0.17</b>	<b>ug/L</b>	<b>10/18/2012 1924</b>
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	10/18/2012 1924
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	10/18/2012 1924
Trichloroethene	ND		1	0.50	0.024	ug/L	10/18/2012 1924
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	10/18/2012 1924
1,2,3-Trichloropropane	ND		1	0.50	0.33	ug/L	10/18/2012 1924
1,2,4-Trimethylbenzene	ND		1	0.50	0.17	ug/L	10/18/2012 1924
1,3,5-Trimethylbenzene (Mesitylene)	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Vinyl chloride	ND		1	0.50	0.065	ug/L	10/18/2012 1924
o - Xylenes	ND		1	0.50	0.17	ug/L	10/18/2012 1924
m+p - Xylenes	ND		1	0.50	0.17	ug/L	10/18/2012 1924
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		101	70-147				
1,2-Dichloroethane-d4		96	52-138				
Toluene-d8		99	76-125				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

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Level 1 Report v2.1

# Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ95669-002

Matrix: Aqueous

Batch: 95669

Prep Method: 6200B

Analytical Method: SM 6200B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	44		1	87	70-130	10/18/2012 1632
Bromobenzene	50	46		1	93	70-130	10/18/2012 1632
Bromochloromethane	50	46		1	93	70-130	10/18/2012 1632
Bromodichloromethane	50	47		1	95	70-130	10/18/2012 1632
Bromoform	50	52		1	104	70-130	10/18/2012 1632
Bromomethane (Methyl bromide)	50	49		1	97	60-140	10/18/2012 1632
tert-Butylbenzene	50	47		1	94	70-130	10/18/2012 1632
sec-Butylbenzene	50	46		1	93	70-130	10/18/2012 1632
n-Butylbenzene	50	44		1	88	70-130	10/18/2012 1632
Carbon tetrachloride	50	39		1	79	70-130	10/18/2012 1632
Chlorobenzene	50	50		1	99	70-130	10/18/2012 1632
Chloroethane	50	43		1	86	42-163	10/18/2012 1632
Chloroform	50	40		1	80	70-130	10/18/2012 1632
Chloromethane (Methyl chloride)	50	50		1	100	20-158	10/18/2012 1632
4-Chlorotoluene	50	46		1	92	70-130	10/18/2012 1632
2-Chlorotoluene	50	46		1	91	70-130	10/18/2012 1632
Dibromochloromethane	50	51		1	103	70-130	10/18/2012 1632
1,2-Dibromoethane (EDB)	50	51		1	102	70-130	10/18/2012 1632
Dibromomethane (Methylene bromide)	50	45		1	90	70-130	10/18/2012 1632
1,4-Dichlorobenzene	50	48		1	95	70-130	10/18/2012 1632
1,3-Dichlorobenzene	50	48		1	96	70-130	10/18/2012 1632
1,2-Dichlorobenzene	50	46		1	93	70-130	10/18/2012 1632
Dichlorodifluoromethane	50	45		1	90	60-140	10/18/2012 1632
1,2-Dichloroethane	50	44		1	89	70-130	10/18/2012 1632
1,1-Dichloroethane	50	42		1	83	70-130	10/18/2012 1632
trans-1,2-Dichloroethene	50	39		1	77	70-130	10/18/2012 1632
cis-1,2-Dichloroethene	50	41		1	82	70-130	10/18/2012 1632
1,1-Dichloroethene	50	35		1	70	70-130	10/18/2012 1632
2,2-Dichloropropane	50	35		1	70	70-130	10/18/2012 1632
1,3-Dichloropropane	50	52		1	104	70-130	10/18/2012 1632
1,2-Dichloropropane	50	49		1	97	70-130	10/18/2012 1632
trans-1,3-Dichloropropene	50	48		1	97	70-130	10/18/2012 1632
cis-1,3-Dichloropropene	50	51		1	101	70-130	10/18/2012 1632
1,1-Dichloropropene	50	42		1	83	70-130	10/18/2012 1632
Diisopropyl ether (IPE)	50	44		1	89	70-130	10/18/2012 1632
Ethanol	5000	4800		1	95	40-130	10/18/2012 1632
Ethylbenzene	50	48		1	96	70-130	10/18/2012 1632
Hexachlorobutadiene	50	47		1	94	70-130	10/18/2012 1632
Isopropylbenzene (Cumene)	50	48		1	96	70-130	10/18/2012 1632
p-Isopropyltoluene (p-Cymene)	50	46		1	92	70-130	10/18/2012 1632
Methyl tertiary butyl ether (MTBE)	50	47		1	95	70-130	10/18/2012 1632
Methylene chloride	50	44		1	87	70-130	10/18/2012 1632
Naphthalene	50	53		1	105	50-140	10/18/2012 1632
n-Propylbenzene	50	46		1	92	70-130	10/18/2012 1632

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and  $\geq$  MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ95669-002

Matrix: Aqueous

Batch: 95669

Prep Method: 6200B

Analytical Method: SM 6200B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Styrene	50	50		1	101	70-130	10/18/2012 1632
1,1,2,2-Tetrachloroethane	50	50		1	100	70-130	10/18/2012 1632
1,1,1,2-Tetrachloroethane	50	46		1	92	70-130	10/18/2012 1632
Tetrachloroethene	50	46		1	92	70-130	10/18/2012 1632
Toluene	50	48		1	95	70-130	10/18/2012 1632
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	25	N	1	50	70-130	10/18/2012 1632
1,2,4-Trichlorobenzene	50	52		1	104	70-130	10/18/2012 1632
1,2,3-Trichlorobenzene	50	49		1	98	70-130	10/18/2012 1632
1,1,2-Trichloroethane	50	49		1	98	70-130	10/18/2012 1632
1,1,1-Trichloroethane	50	40		1	80	70-130	10/18/2012 1632
Trichloroethene	50	44		1	88	70-130	10/18/2012 1632
Trichlorofluoromethane	50	42		1	83	60-140	10/18/2012 1632
1,2,3-Trichloropropane	50	49		1	97	70-130	10/18/2012 1632
1,2,4-Trimethylbenzene	50	47		1	93	70-130	10/18/2012 1632
1,3,5-Trimethylbenzene (Mesitylene)	50	49		1	98	70-130	10/18/2012 1632
Vinyl chloride	50	44		1	88	60-140	10/18/2012 1632
o - Xylenes	50	48		1	96	70-130	10/18/2012 1632
m+p - Xylenes	50	46		1	93	70-130	10/18/2012 1632
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		98	70-147				
1,2-Dichloroethane-d4		98	52-138				
Toluene-d8		100	76-125				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ95669-003

Batch: 95669

Matrix: Aqueous

Prep Method: 6200B

Analytical Method: SM 6200B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	44		1	88	0.97	70-130	20	10/18/2012 1657
Bromobenzene	50	47		1	93	0.71	70-130	20	10/18/2012 1657
Bromochloromethane	50	49		1	98	5.5	70-130	20	10/18/2012 1657
Bromodichloromethane	50	46		1	91	4.2	70-130	20	10/18/2012 1657
Bromoform	50	50		1	100	3.6	70-130	20	10/18/2012 1657
Bromomethane (Methyl bromide)	50	54		1	109	11	60-140	20	10/18/2012 1657
tert-Butylbenzene	50	47		1	93	1.2	70-130	20	10/18/2012 1657
sec-Butylbenzene	50	48		1	95	2.9	70-130	20	10/18/2012 1657
n-Butylbenzene	50	45		1	89	1.8	70-130	20	10/18/2012 1657
Carbon tetrachloride	50	44		1	88	12	70-130	20	10/18/2012 1657
Chlorobenzene	50	47		1	94	4.9	70-130	20	10/18/2012 1657
Chloroethane	50	48		1	95	10	42-163	20	10/18/2012 1657
Chloroform	50	44		1	89	10	70-130	20	10/18/2012 1657
Chloromethane (Methyl chloride)	50	55		1	110	9.6	20-158	20	10/18/2012 1657
4-Chlorotoluene	50	47		1	94	2.2	70-130	20	10/18/2012 1657
2-Chlorotoluene	50	46		1	93	1.5	70-130	20	10/18/2012 1657
Dibromochloromethane	50	50		1	101	2.3	70-130	20	10/18/2012 1657
1,2-Dibromoethane (EDB)	50	50		1	101	1.2	70-130	20	10/18/2012 1657
Dibromomethane (Methylene bromide)	50	45		1	91	0.94	70-130	20	10/18/2012 1657
1,4-Dichlorobenzene	50	46		1	92	3.1	70-130	20	10/18/2012 1657
1,3-Dichlorobenzene	50	47		1	94	1.7	70-130	20	10/18/2012 1657
1,2-Dichlorobenzene	50	47		1	94	1.2	70-130	20	10/18/2012 1657
Dichlorodifluoromethane	50	49		1	99	9.5	60-140	20	10/18/2012 1657
1,2-Dichloroethane	50	46		1	93	4.6	70-130	20	10/18/2012 1657
1,1-Dichloroethane	50	45		1	90	8.5	70-130	20	10/18/2012 1657
trans-1,2-Dichloroethene	50	43		1	87	12	70-130	20	10/18/2012 1657
cis-1,2-Dichloroethene	50	44		1	88	7.2	70-130	20	10/18/2012 1657
1,1-Dichloroethene	50	37		1	75	6.5	70-130	20	10/18/2012 1657
2,2-Dichloropropane	50	37		1	74	5.7	70-130	20	10/18/2012 1657
1,3-Dichloropropane	50	49		1	98	5.6	70-130	20	10/18/2012 1657
1,2-Dichloropropane	50	49		1	97	0.031	70-130	20	10/18/2012 1657
trans-1,3-Dichloropropene	50	50		1	100	3.6	70-130	20	10/18/2012 1657
cis-1,3-Dichloropropene	50	50		1	100	1.1	70-130	20	10/18/2012 1657
1,1-Dichloropropene	50	44		1	88	5.4	70-130	20	10/18/2012 1657
Diisopropyl ether (IPE)	50	44		1	88	0.73	70-130	20	10/18/2012 1657
Ethanol	5000	5100		1	102	6.2	40-130	20	10/18/2012 1657
Ethylbenzene	50	49		1	99	3.0	70-130	20	10/18/2012 1657
Hexachlorobutadiene	50	49		1	97	3.9	70-130	20	10/18/2012 1657
Isopropylbenzene (Cumene)	50	50		1	99	2.9	70-130	20	10/18/2012 1657
p-Isopropyltoluene (p-Cymene)	50	49		1	98	6.0	70-130	20	10/18/2012 1657
Methyl tertiary butyl ether (MTBE)	50	47		1	94	0.73	70-130	20	10/18/2012 1657
Methylene chloride	50	46		1	92	5.3	70-130	20	10/18/2012 1657
Naphthalene	50	56		1	112	6.3	50-140	20	10/18/2012 1657
n-Propylbenzene	50	48		1	96	4.6	70-130	20	10/18/2012 1657

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



# Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ95669-003

Batch: 95669

Matrix: Aqueous

Prep Method: 6200B

Analytical Method: SM 6200B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Styrene	50	51		1	102	0.86	70-130	20	10/18/2012 1657
1,1,2,2-Tetrachloroethane	50	48		1	96	4.3	70-130	20	10/18/2012 1657
1,1,1,2-Tetrachloroethane	50	46		1	93	0.24	70-130	20	10/18/2012 1657
Tetrachloroethene	50	46		1	92	0.63	70-130	20	10/18/2012 1657
Toluene	50	46		1	93	2.7	70-130	20	10/18/2012 1657
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	27	N	1	54	7.8	70-130	20	10/18/2012 1657
1,2,4-Trichlorobenzene	50	52		1	104	0.39	70-130	20	10/18/2012 1657
1,2,3-Trichlorobenzene	50	50		1	101	2.8	70-130	20	10/18/2012 1657
1,1,2-Trichloroethane	50	49		1	98	0.38	70-130	20	10/18/2012 1657
1,1,1-Trichloroethane	50	44		1	87	8.5	70-130	20	10/18/2012 1657
Trichloroethene	50	45		1	91	3.6	70-130	20	10/18/2012 1657
Trichlorofluoromethane	50	46		1	92	10	60-140	20	10/18/2012 1657
1,2,3-Trichloropropane	50	48		1	97	0.30	70-130	20	10/18/2012 1657
1,2,4-Trimethylbenzene	50	48		1	96	2.5	70-130	20	10/18/2012 1657
1,3,5-Trimethylbenzene (Mesitylene)	50	46		1	92	5.9	70-130	20	10/18/2012 1657
Vinyl chloride	50	48		1	97	8.8	60-140	20	10/18/2012 1657
o - Xylenes	50	48		1	96	0.046	70-130	20	10/18/2012 1657
m+p - Xylenes	50	49		1	98	5.7	70-130	20	10/18/2012 1657
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		98	70-147						
1,2-Dichloroethane-d4		93	52-138						
Toluene-d8		97	76-125						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# SHEALY ENVIRONMENTAL SERVICES, INC.



## Chain of Custody Record

Shealy Environmental Services, Inc.

106 Vantage Point Drive

West Columbia, South Carolina 29172

Telephone No (803) 791-9700 Fax No (803) 791-9111

Number 29930

<b>Client</b> Crawford Environmental 515 S. New Hope Rd. Suite 6 29110		<b>Request to Contact</b> David Kwiatkowski Telephone No / Fax No / Email		<b>Sampler (Printed Name)</b> David Kwiatkowski Worksheet No		<b>Quote No.</b> _____	
<b>City</b> Columbia, SC		<b>State</b> SC		<b>Zip</b> 29110		<b>Page</b> 1 of 1	
<b>Project Name</b> Belvoir's Store		<b>Preservative</b> 1. H <sub>2</sub> O 2. HNO <sub>3</sub> 3. H <sub>2</sub> SO <sub>4</sub> 4. HCl 5. H <sub>2</sub> O <sub>2</sub> 6. H <sub>2</sub> SO <sub>4</sub> 7. H <sub>2</sub> O <sub>2</sub> 8. H <sub>2</sub> SO <sub>4</sub> 9. H <sub>2</sub> O <sub>2</sub> 10. H <sub>2</sub> SO <sub>4</sub> 11. H <sub>2</sub> O <sub>2</sub> 12. H <sub>2</sub> SO <sub>4</sub> 13. H <sub>2</sub> O <sub>2</sub> 14. H <sub>2</sub> SO <sub>4</sub> 15. H <sub>2</sub> O <sub>2</sub> 16. H <sub>2</sub> SO <sub>4</sub> 17. H <sub>2</sub> O <sub>2</sub> 18. H <sub>2</sub> SO <sub>4</sub> 19. H <sub>2</sub> O <sub>2</sub> 20. H <sub>2</sub> SO <sub>4</sub> 21. H <sub>2</sub> O <sub>2</sub> 22. H <sub>2</sub> SO <sub>4</sub> 23. H <sub>2</sub> O <sub>2</sub> 24. H <sub>2</sub> SO <sub>4</sub> 25. H <sub>2</sub> O <sub>2</sub> 26. H <sub>2</sub> SO <sub>4</sub> 27. H <sub>2</sub> O <sub>2</sub> 28. H <sub>2</sub> SO <sub>4</sub> 29. H <sub>2</sub> O <sub>2</sub> 30. 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# SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.  
Document Number: E-474-016  
Revision Number: 9

Page: 1 of 1  
Replaces Date: 05/06/07  
Effective Date: 10/01/11

## Sample Receipt Checklist (SRC)

Client: Crawford / NCDOT Cooler Inspected by/date: EA 10/10/11 Lot #: NS10022

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other		
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	1. Were custody seals present on the cooler?	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?	
Cooler ID/temperature upon receipt: <u>1</u> <u>2</u> °C / °C / °C / °C		
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.		
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	5a. Were samples relinquished by client to commercial courier?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	6. Were sample IDs listed?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	7. Was collection date & time listed?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	8. Were tests to be performed listed on the COC?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	9. Did all samples arrive in the proper containers for each test?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with COC?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	11. Did all containers arrive in good condition (Unbroken, lids on, etc.)?	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	12. Was adequate sample volume available?	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	12. Were all samples received within 15 the holding time or 48 hours, whichever comes first?	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	14. Were any samples containers missing?	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	15. Were there any excess samples not listed on COC?	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	16. Were bubbles present: >"pea-size" (¼" or 6mm in diameter) in any VOA vials?	
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	17. Were all metals/O&G/HM/nutrient samples received at a pH of <2?	
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	18. Were all cyanide and/or sulfide samples received at a pH >12?	
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	19. Were all applicable NH <sub>3</sub> /TKN/cyanide/pheno/BNA/pest/PCB/herb (<0.2mg/l) samples free of residual chlorine?	
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	20. Were collection temperatures documented on the COC for NC samples?	
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc.) correctly transcribed from the COC into the comment section in LIMS?	

**Sample Preservation** (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s): \_\_\_\_\_ were received incorrectly preserved and were adjusted according to in sample receiving with \_\_\_\_\_ (H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>, HCl, NaOH) with the SR # (number) \_\_\_\_\_

Sample(s): \_\_\_\_\_ were received with bubbles >6 mm in diameter.

Sample(s): \_\_\_\_\_ were received with TRC >0.2 mg/L for NH<sub>3</sub>/TKN/cyanide/BNA/pest/PCB/herb.

**Corrective Action taken, if necessary:**

Was client notified: Yes ☐ No ☐

Did client respond: Yes ☐ No ☐

SESI employee: \_\_\_\_\_

Date of response: \_\_\_\_\_

Comments: \_\_\_\_\_

## **APPENDIX C**

### Field Notes

Gladys Flowers

10/4/12

DLK on site @ 8:30

KB on site @ 8:45

Spoke w/ Norwood Thompson

He will meet us at site.

TW-1, TW-2 & TW-4 are no longer present  
-evidence of wells destroyed.

Well ID	Depth	Depth	Sample
TD	Drop	Depth	Sample
	water	well	purged
			time

TW-3 29.30 30.5 0.5 gal 10:30 1.5' stop

Reception Survey Update

- Area is too sandy.

WSW-5 property for Sale

Norwood said he will help in getting prop.  
owners to connect to county water.

Left site @ 11:00

11/11/12



## ECS CAROLINAS, LLP

Geotechnical • Construction Materials • Environmental • Facilities

*"Setting the Standard for Service"*

NC Registered Engineering Firm F-1078  
NC Registered Geologists Firm C-406  
SC Registered Engineering Firm 3239

March 2, 2016

Mr. Mark Petermann  
NCDEQ, Division of Waste Management, UST Section  
1637 Mail Service Center  
Raleigh, North Carolina 27699-1637

Reference: Report of Environmental Services – Flowers Store Property  
4181 NC Highway 42 East  
Clayton, Johnston County, North Carolina  
NCDEQ Incident: 17217  
NCDEQ Contract: N14007i-C  
ECS Project: 49:1226

Dear Mr. Petermann:

As authorized by your acceptance of ECS Carolinas, LLP (ECS) Task Authorization Request #4 (TAR #4) dated January 21, 2016, ECS has completed the Report of Environmental Services for the above-referenced site. Included in this report is a description of the field activities, the results obtained, and our conclusions and recommendations. Information regarding the owner of former underground storage tank (UST), current property owner, contacts, consultant, laboratory, release information, and latitude and longitude are presented below.

ECS appreciates the opportunity to provide our environmental consulting services to you on this project. If you have any questions concerning this report or this project, please contact us at (919) 861-9910.

Sincerely,

**ECS CAROLINAS, LLP**

Matthew Gillis  
Environmental Project Manager  
[mgillis@ecslimited.com](mailto:mgillis@ecslimited.com)  
919-861-9845

C. Brian Smith, P.G.  
Principal Geologist  
[bsmith@ecslimited.com](mailto:bsmith@ecslimited.com)  
919-861-9850

*Report of Environmental Services – Flowers Store Property  
4181 NC Highway 42 East  
Clayton, Johnston County, North Carolina  
NCDEQ Incident: 17217  
NCDEQ Contract: N14007i-C  
March 2, 2016*

## **SITE INFORMATION**

Date of Report:	March 2, 2016
Facility I.D.:	Unknown
UST Incident No.:	12704
Site Rank:	High
Land Use Category:	Vacant – Two Buildings are located on the property
Site Name and Location:	Flowers Store Property 4181 NC Highway 42 East Clayton, Johnson County, North Carolina
Location Method:	Google Earth
Latitude and Longitude:	36.651793° North, -78.360938° West
Contacts	
Primary Contact:	Ms. Jana Guertler 526 Powell Road Raleigh, North Carolina 27606 (919) 622-8385
Consultant:	ECS Carolinas, LLP 9001 Glenwood Avenue Raleigh, North Carolina 27617 (919) 861-9910 Attn: Matthew Gillis
Laboratory:	Pace Analytical Services, Inc. 9800 Kincey Ave, Suite 100 Huntersville, North Carolina 28078 (704) 875-9092 NC Certification No. 12

Report of Environmental Services – Flowers Store Property  
4181 NC Highway 42 East  
Clayton, Johnston County, North Carolina  
NCDEQ Incident: 17217  
NCDEQ Contract: N14007i-C  
March 2, 2016

A release at the subject site is associated with one 8,000-gallon gasoline UST, one 6,000-gallon diesel UST, and one 1,000-gallon kerosene/diesel UST, which were removed from the site in August 1994, and one 1,000-gallon gasoline UST, which was removed from the site in April 2006.

On January 26, 2016, ECS collected groundwater samples from monitoring wells MW-3, MW-5, MW-7, MW-8, MW-9, and MW-10. ECS also collected groundwater samples from water supply wells WSW-2, WSW-4 and WSW-5. The properties associated with water supply wells WSW-3, and WSW-6 were unoccupied; therefore groundwater samples were not collected.

Seal and Signature of Certifying Licensed Geologist

I, C. Brian Smith, P.G., a Licensed Geologist for ECS Carolinas, LLP, do certify that the information contained in this report is correct and accurate to the best of my knowledge.



C. Brian Smith, P.G.  
NC License No. 2241



ECS Carolinas, LLP is permitted to practice geology + engineering in North Carolina. The certification number of the corporation is F-1078.



## **EXECUTIVE SUMMARY**

The subject site is known as the Flowers Store Property and is located at 4181 NC Highway 42 East in Clayton, Johnson County, North Carolina. The subject site is further identified by Johnson County Geographic Information Systems (GIS) Parcel Identification Number (PIN) 168900-92-5990.

On January 26, 2016, ECS collected groundwater samples from six existing monitoring wells (MW-3, MW-5, MW-7, MW-8, MW-9, and MW-10). ECS also collected groundwater samples from three water supply wells (WSW-2, WSW-4, and WSW-5). The properties associated with the water supply wells (WSW-3 and WSW-6) were unoccupied; therefore groundwater samples were not collected.

Laboratory analysis reported naphthalene at a concentration above its North Carolina 2L Groundwater Quality Standards (NC2LGWQS) but below its Gross Contamination Level (GCL) in the groundwater sample collected from monitoring well MW-9.

Laboratory analysis reported bromodichloromethane and dibromochloromethane at concentrations above their respective NC2LGWQS but below their respective GCLs in the groundwater samples collected from water supply wells WSW-2 and WSW-4.

Laboratory analysis reported 1,2-dichloropropane at a concentration above its NC2LGWQS but below its GCL in the groundwater sample collected from water supply well WSW-5.

Laboratory analysis reported several additional targeted analytes above their respective laboratory reporting limits but below their NC2LGWQS in the groundwater samples collected from monitoring wells MW-9 and water supply wells WSW-2 and WSW-4.

Laboratory analysis did not report targeted analytes at concentrations above the laboratory reporting limits in the groundwater samples collected from monitoring wells MW-3, MW-5, MW-7, MW-8, and MW-10.

ECS recommends conducting a groundwater sampling event at the site and conduct contamination transport modeling to assess the potential migration of the contamination plume for monitoring well MW-9 and its relation to area water supply wells in April 2016. Once the modeling is complete and assuming area water supply wells will not be impacted, a Notice of Residual Petroleum (NRP) for groundwater contamination should be submitted for the site and the NCDEQ should consider issuing a letter of No Further Action (NFA).

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Figure 5	Groundwater Concentration Map
Figure 6	Naphthalene Isoconcentration Map
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Table 3	Summary of Current Groundwater Analytical Results
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### APPENDICIES

Appendix A	ECS Personnel Field Notes
Appendix B	Site Photographs
Appendix C	Laboratory Analytical Data Sheets and Chain of Custody Records

## SITE HISTORY

The Flowers Store Property is located at 4181 NC Highway 42 East in Clayton, Johnson County, North Carolina (Figures 1 and 2). According to a *1994 UST Closure Report* prepared by Froehling & Robertson Inc. (F&R), the site was formerly utilized as a gasoline station and auto repair service facility. On August 29, 1994, one 8,000-gallon gasoline UST (UST-1), one 1,000-gallon kerosene/diesel UST (UST-2), and one 6,000-gallon diesel UST (UST-3), along with associated piping/equipment were removed by Action Oil Equipment Company. A summary of the former UST information for the site is included in Table 1. Based on the analytical results of the soil samples, releases were reported beneath UST-2 and UST-3. The laboratory reported Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) and TPH-Diesel Range Organics (TPH-DRO) at concentrations above their respective North Carolina Department of Environmental Quality (NCDEQ) UST Section's Action Level of 10 mg/kg. TPH-GRO was reported at concentrations ranging from 567 mg/kg to 2,900 mg/kg. TPH-DRO concentrations ranged from 18.6 mg/kg to 11,100 mg/kg. Contaminated soils were not removed from the site and groundwater samples were not collected during UST closure activities.

On February 17, 2006, Agra Environmental, Inc. (AGRA) conducted an Initial Site Visit and Site Receptor Survey. Agra identified one building on the subject site that was used as a repair garage and was being used for storage. A sump was observed, which possibly was used as an oil/water separator, near the rear of the garage. Metal debris, including appliances, tanks, and vehicles were scattered throughout the wooded area along the northern boundary of the subject site. AGRA also documented that an additional UST (UST-4) was discovered near the southeastern corner of the subject site. AGRA identified four potential water supply wells within 1,500 feet of the subject site and a pond located on the adjacent property to the northeast of the site.

A 2006 *UST Closure Report*, prepared by AGRA, indicates AGRA removed one 1,000-gallon UST from the southeastern corner of the subject site. AGRA did not observe contaminated soil in the UST excavation. However, two 55-gallon drums of contaminated soil associated with spillage of residual sludge from the UST were removed from the subject site. The remaining soils and clean fill were used to backfill the UST excavation. Soil samples were not collected prior to backfill.

AGRA performed a door-to-door survey of the surrounding area on May 22, 2008. A total of six water supply wells (WSW-1, WSW-2, WSW-3, WSW-4, WSW-5, and WSW-6) were identified approximately 525 feet (ft), 525 ft, 1,100 ft, 900 ft, 550 ft, and 1,400 ft from the subject site, respectively. An interview with the owners of water supply wells WSW-1 and WSW-4, indicated that both water supply wells were used as a primary drinking water source and the residence was not connected to the public water supply at that time. An interview with the owners of water supply wells WSW-2 and WSW-3 indicated that both wells were currently disconnected and the properties were connected to the public water supply. Additionally, two water supply wells (WSW-5 and WSW-6) were observed at 160 Motorcycle Road and 270 Motorcycle Road, respectively. The property owners could not be contacted during the site visit or during follow up interviews. AGRA identified 160 Motorcycle Road as a residential property and 270 Motorcycle Road as Pineville Chapel Church.

On June 17, 2008, AGRA conducted an *Initial Groundwater Site Investigation* and collected groundwater samples from water supply wells WSW-1 and WSW-4. The laboratory reported bis

(2-ethylhexyl) phthalate in water supply well WSW-1 at a concentration above its North Carolina Department of Environment and Natural Resources 2L Groundwater Quality Standard (NC2LGWQS) but below its Gross Contamination Level (GCL). However, AGRA stated that bis (2-ethylhexyl) phthalate is not a petroleum constituent and was believed to be a laboratory contaminant. Bis (2-ethylhexyl) phthalate was also reported above its laboratory reporting limit but below its NC2LGWQS in water supply well WSW-4.

On August 28, 2008, Regional Probing Services installed four temporary monitoring wells (TW-1, TW-2, TW-3 (MW-3), and TW-4) on the subject site using a Geoprobe. The temporary wells were each installed to a depth of 35 feet below the ground surface (ft. bgs) with a screened interval of 15 linear feet. Soil encountered during the well installations was very tight red clay. Soil samples were collected during the installation of each temporary monitoring well at depths of 10 ft. and 20 ft. bgs. The laboratory reported methyl chloride in the soil samples collected from temporary wells TW-3 and TW-4 at concentrations above the Soil-To-Groundwater Maximum Soil Contaminant Concentration (MSCC) standard of 0.02 milligrams per kilogram (mg/kg). Diethyl phthalate was reported in the soil samples collected from TW-2 and TW-3. Di-n-butyl phthalate was reported in soil sample TW-3. Diethyl phthalate and di-n-butyl phthalate do not have an established MSCC standard.

On September 2, 2008, AGRA personnel collected groundwater samples from temporary wells TW-1 through TW-4. Temporary well TW-1 was analyzed for volatile organic compounds (VOCs) using EPA Method 6200B, for semi-volatile organic compounds (SVOCs) using EPA Method 625, and Massachusetts Department of Environmental Protection Extractable Petroleum Hydrocarbons (MADEP EPH), MADEP Volatile Petroleum Hydrocarbons (MADEP VPH), and lead using EPA Method 6010/303C. Groundwater samples were also collected from temporary wells TW-2, TW-3, and TW 4 to be analyzed for VOCs using EPA Method 6200B and MADEP VPH. The laboratory reported lead at a concentration of 250 micrograms per liter ( $\mu\text{g/L}$ ) in the groundwater sample collected from temporary well TW-1, which exceeds the NC2LGWQS of 15  $\mu\text{g/L}$ . Di-n-butyl phthalate was detected in temporary well TW-1 at a concentration of 6.68  $\mu\text{g/L}$ ; however di-n-butyl phthalate does not have a NC2LGWQS. The laboratory did not report additional targeted analytes from the groundwater samples at concentrations exceeding their respective NC2LGWQS.

On February 5, 19, and 25, 2009, Cohesion, Inc. (Cohesion) collected soil samples from numerous locations at the subject site in an attempt to confirm that contaminated soils remain at the subject site. Laboratory analysis reported TPH above the Action Level of 10 mg/kg in soil samples collected near the rear of the garage, adjacent to an old CITGO petroleum tanker that had been discarded in the rear of the property, and near two hydraulic pumps located inside the garage.

On September 30, 2009, AGRA personnel conducted a soil and groundwater sampling event at the site. Three soil borings were advanced in the former UST locations (UST-1 to 12 ft bgs, UST-2 to 8 ft bgs, and UST-3 to 10 ft bgs). Additionally, soil borings were advanced adjacent to the previously installed soil borings B-15 and B-8. Soil samples were collected from B-15 and B-8 at depths of 2 ft bgs and 8 ft bgs. As part of the sampling event, AGRA personnel attempted to collect groundwater samples from the four on-site temporary monitoring wells TW-1, TW-2, TW-3, and TW-4. The temporary wells were previously installed with PVC risers, which extended approximately 1.5 ft above the ground surface. The aboveground risers of temporary wells TW-1

and TW-2 were broken and TW-4 was dry. The laboratory reported targeted analytes at the subject site in the soil samples collected near the former locations of UST-2 and UST-3, as well as adjacent to the discarded tanker on the rear of the property. However, the analytes reported were below their respective MSCC standards or did not have established MSCC standards. The laboratory reported tetrachloroethene at concentrations of 0.89 µg/L and 0.71 µg/L in the groundwater samples collected from TW-1 and TW-2, respectively, which were above the NC2LGWQS of 0.70 µg/L. Temporary well TW-4 was not sampled. However, targeted analytes were not reported in TW-4 during the sampling event performed on September 2, 2008. Additionally, 1,2-dichloropropane was reported at a concentration of 0.51 µg/L in water supply well WSW-5, which is below the NC2LGWQS of 0.60 µg/L.

On October 4, 2012, Crawford Environmental Services (CES) conducted a groundwater monitoring event at the subject site. Temporary monitoring wells TW-1, TW-2, and TW-4 were not located and were presumed destroyed. CES observed six water supply wells within 1,500 feet of the subject site (WSW-1 through WSW-6). Based on discussions with the property owner, the home associated with water supply well WSW-1 had been connected to municipal water and the well had been abandoned. The properties utilizing water supply wells WSW-2 and WSW-3 were also connected to municipal water. Water supply wells WSW-4 through WSW-6 were still actively used as a water supply source. CES collected a groundwater sample from temporary well TW-3 and the laboratory did not report targeted analytes above the laboratory reporting limit.

Information contained in a March 26, 2013 *Groundwater Monitoring Report* prepared by CES, indicates that on February 13 and 14, 2013, CES installed two permanent monitoring wells (MW-5 and MW-7) at the subject site. CES collected groundwater samples from temporary well TW-3 and monitoring wells MW-5, and MW-7. The laboratory reported several targeted analytes at concentrations above their respective laboratory reporting limits, but below their respective NC2LGWQS. Additionally, CES collected soil samples at depths of 8 ft bgs, 13 ft bgs, and 23 ft bgs during the installation of monitoring well MW-5. The laboratory reported C9-C22 Aromatics at a concentration above the MSCC in the soil sample collected from MW-5 at 23 ft bgs. The laboratory reported several additional targeted analytes at concentrations above the laboratory reporting limits, but below their respective MSCCs. The results of this soil sampling are summarized in Table 6.

On August 13, 2014, ECS collected two groundwater samples from monitoring wells MW-5 and MW-7. Monitoring well MW-3 was filled with dirt; therefore, a groundwater sample was not collected. Additionally, ECS collected groundwater samples from water supply wells WSW-4, WSW-5, and WSW-6. The laboratory reported several analytes at concentrations above their respective laboratory reporting limit in the groundwater samples collected from the site monitoring wells. Additionally, the laboratory reported several analytes at concentrations above the laboratory reporting limit in the groundwater samples collected from water supply wells WSW-4 and WSW-5.

On June 11 and 12, 2015, ECS installed three monitoring wells (MW-8 through MW-10), collected groundwater samples from monitoring well MW-3, MW-5, MW-7 and each of the three new monitoring wells. ECS also collected groundwater samples from water supply wells WSW-4 and WSW-5. The properties associated with water supply wells WSW-2, WSW-3, and WSW-6 were unoccupied; therefore groundwater samples were not collected.

On June 25, 2015 ECS contracted with Bateman Civil Survey to survey the monitoring wells. During surveying activities, ECS identified bulldozing had occurred near the location of monitoring well MW-3 and had damaged the well.

## **SITE GEOLOGY AND HYDROGEOLOGY**

As determined from the USGS Topographic Map, Flowers, North Carolina Quadrangle dated 1998 (Figure 1), the site is at an approximate elevation of 275 feet above mean sea level. Surface runoff on the site is generally to the west.

The subject site is situated in the Coastal Plain Physiographic Province. The soils encountered in this area are the residual product of in-place chemical weathering of rock presently underlying the site and/or historic depositional events. In general, shallow unconfined groundwater movement within the overlying soils is controlled largely by topographic gradients. However, as the groundwater percolates downward, it becomes controlled by the subsurface geologic conditions. Thus, the direction of groundwater movement in the deeper aquifers may not be consistent with the reflecting topography.

In general, shallow unconfined groundwater movement within the overlying soils is controlled largely by topographic gradients. Recharge occurs primarily by infiltration along higher elevations and typically discharges into streams or other surface water bodies. The elevation of the shallow water table is transient and can vary with seasonal fluctuations in precipitation. Movement of shallow groundwater is generally from higher to lower elevations.

### **Water Supply Wells**

Six previously identified water supply wells are located within 1,000 feet of the source area. According to the 2012 CES groundwater monitoring report, water supply wells WSW-1, WSW-2, and WSW-3 are connected to municipal water and WSW-1 is abandoned. Additionally, the residences associated with water supply wells WSW-4 and WSW-5 are actively used as a potable water source. Water supply wells WSW-3 and WSW-6 are located greater than 1,000 feet from the source area. ECS previously received a completed water supply well questionnaire from Ms. Sarah Blanchard, the property owner of the residence associated with water supply well WSW-4. Ms. Blanchard stated that WSW-4 is active and the residence is not connected to municipal water. However, water supply well WSW-4 is approximately 975 feet southeast and topographically crossgradient of the site. ECS also received verbal permission from the resident of the home associated with water supply well WSW-5 to collect a groundwater sample. ECS has not received completed water supply well questionnaires from the remaining property owners within 1,000 feet of the site. The names and addresses of the property owners with water supply wells located within 1,000 feet of the site are included in Table 7 and shown on Figure 7.

## **FIELD ACTIVITIES**

On January 26, 2015, ECS collected groundwater samples from monitoring wells MW-3, MW-5, MW-7, MW-8, MW-9, and MW-10. ECS personnel field notes are included in Appendix A. Site photographs are included in Appendix B.

Prior to the sampling activities, the static groundwater elevation was measured in each monitoring well. Well construction details and groundwater elevation data is summarized in Table 2 and shown of Figure 4. Based on these measurements, ECS determined groundwater flows generally to the west. Purging and sampling were accomplished using a peristaltic pump and dedicated tubing. Immediately after collection, the groundwater samples were transferred into sample containers provided by the laboratory.

ECS also collected groundwater samples from water supply wells WSW-2, WSW-4, and WSW-5. The property associated with water supply well WSW-6 was unoccupied; therefore a groundwater sample was not collected.

Prior to water supply well sampling activities, ECS opened the spigots attached to the outside of the residences for three to five minutes allowing the groundwater to purge from the water supply wells and associated water lines. After allowing the water supply wells to purge, ECS collected the groundwater samples from the spigots into sample containers provided by the laboratory.

The sample containers were labeled with ECS project number, sample identification, sample date and time, and requested analytical analysis. The containers were placed into protective packaging material and placed into a cooler with ice to maintain the samples at approximately 4° Celsius (°C). The samples were submitted to Pace Analytical Services, Inc. located in Huntersville, North Carolina for chemical analysis for volatile organic compounds (VOCs) using EPA Method 6200B. ECS maintained proper chain of custody (COC) procedures throughout the sample collection and transportation process. Laboratory data sheets and COC records are included in Appendix C.

## **LABORATORY ANALYTICAL RESULTS**

Laboratory analysis reported naphthalene at a concentration above its NC2LGWQS but below its GCL in the groundwater sample collected from monitoring well MW-9.

Laboratory analysis reported bromodichloromethane and dibromochloromethane at concentrations above their respective NC2LGWQS but below their respective GCLs in the groundwater samples collected from water supply wells WSW-2 and WSW-4.

Laboratory analysis reported 1,2-dichloropropane at a concentration above its NC2LGWQS but below its GCL in the groundwater sample collected from water supply well WSW-5.

Laboratory analysis reported several additional targeted analytes above their respective laboratory reporting limits but below their NC2LGWQS in the groundwater samples collected from monitoring well MW-9 and water supply wells WSW-2 and WSW-4.

Laboratory analysis did not report targeted analytes at concentrations above the laboratory reporting limits in the groundwater samples collected from monitoring wells MW-3, MW-5, MW-7, MW-8, and MW-10.

A summary of the laboratory analytical results is included in Table 3 and shown on Figures 5 and 6. Historical groundwater data is summarized in Tables 4 and 5.

The laboratory analytical data sheets and COCs are included in Appendix C.

## **CONCLUSIONS**

Based on the results of this Groundwater Sampling Event, ECS concludes the following:

- Historically, water supply wells WSW-1, WSW-2 and WSW-3 are connected to the municipal water supply. The presence of these water supply wells is unknown, except for WSW-1, which has been abandoned.
- Naphthalene was reported at a concentration above its NC2LGWQS in the groundwater sample from monitoring well MW-9;
- Laboratory analysis did not report targeted analytes at concentrations above the NC2LGWQS in the remaining groundwater samples collected from site monitoring wells;
- Laboratory analysis reported bromodichloromethane and dibromochloromethane in water supply wells WSW-2 and WSW-4 at concentrations above their respective NC2LGWQS. Bromodichloromethane and dibromochloromethane are common laboratory reagents and are not considered analytes of concern of the site. Additionally, WSW-4 is located approximately 975 feet southeast and topographically cross-gradient of the site and WSW-2 is connected to municipal water. Therefore, ECS does not consider these detections associated with the Flowers Store Property; and
- Laboratory analysis reported 1,2-dichloropropane in water supply well WSW-5 at a concentration above its NC2LGWQS. WSW-5 is located approximately 525 feet northwest and topographically cross-gradient of the site. Therefore, ECS does not consider this detection associated with Flowers Store Property.

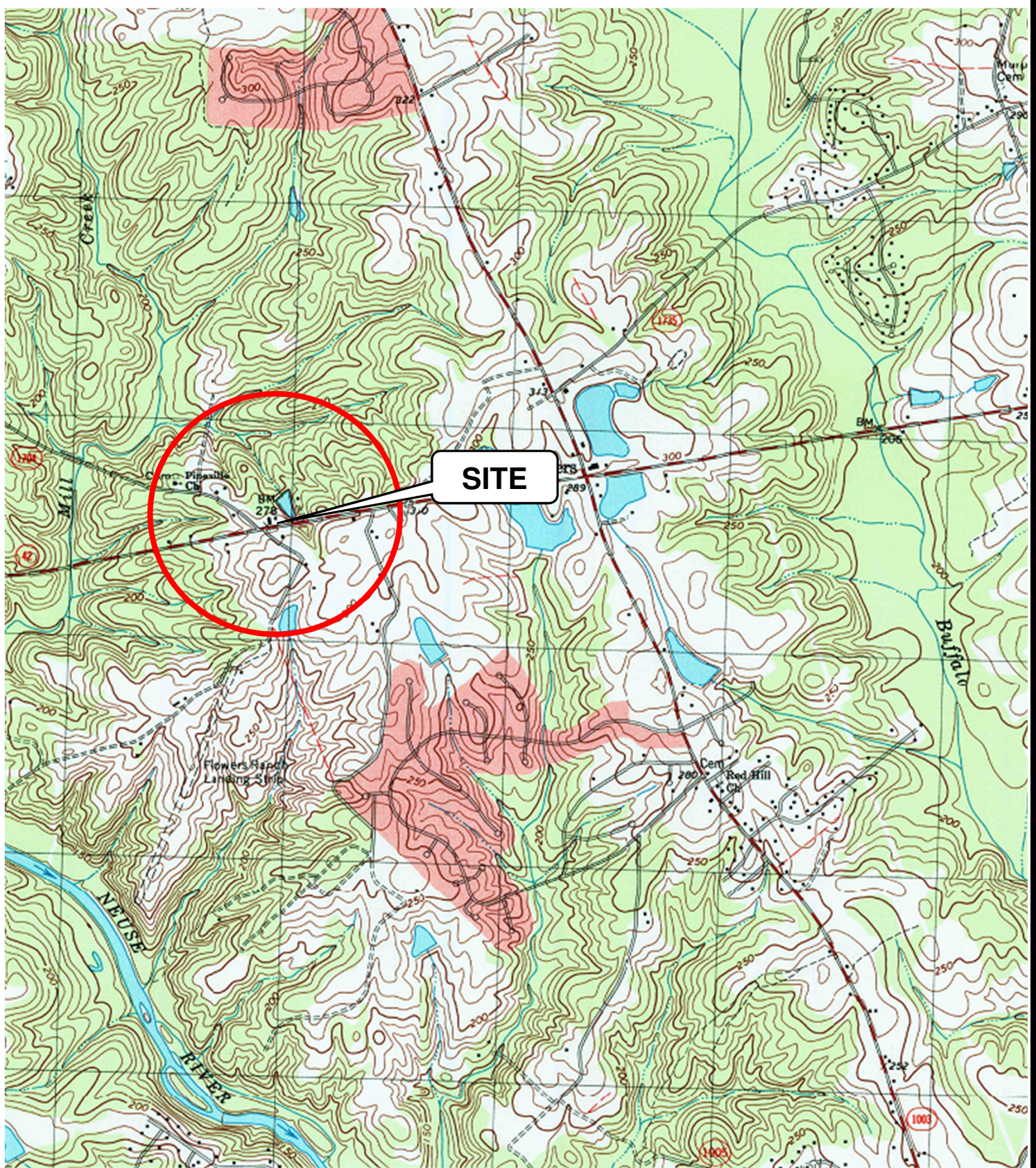
## **RECOMMENDATIONS**

- ECS recommends conducting a groundwater sampling event at the site in April 2016;
- ECS recommends conducting contamination transport modeling to assess the potential migration of the contamination plume for monitoring well MW-9 and its relation to area water supply wells. Once the modeling is complete and assuming area water supply wells will not be impacted, a NRP for soil and groundwater contamination should be submitted for the site and the NCDEQ should consider issuing a letter of NFA;
- ECS recommends that once the NRP has been issued, the NCDEQ should issue a NFA letter for the site and consider the site for closure; and
- ECS recommends that a copy of this report be submitted to the current property owner.



## FIGURES





**SOURCE:**

USGS TOPOGRAPHIC MAP  
FLOWERS  
NORTH CAROLINA QUADRANGLE  
DATED 1998

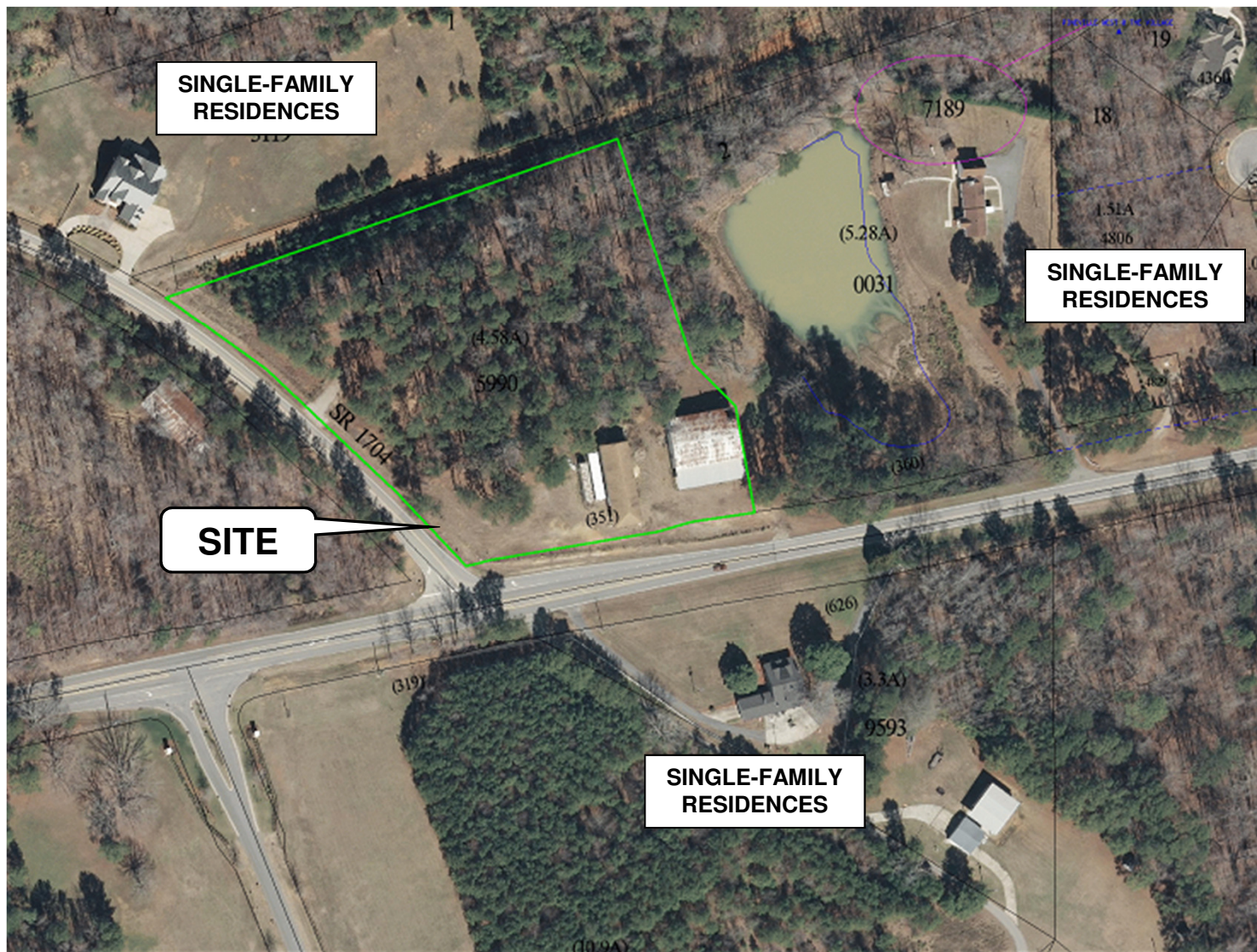
SCALE: 1 : 24,000



**FIGURE 1  
SITE LOCATION MAP**

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226





Scale: 1 inch = 197 feet

**SOURCE:**  
JOHNSTON COUNTY GIS  
DATED 2013  
SCALE AS SHOWN



**FIGURE 2**  
**SITE AERIAL MAP**  
FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226





#### LEGEND

MW-3 ● Approximate Location of Monitoring Well

□ Approximate Location of Former UST

Scale: 1 inch = 60 feet

#### SOURCE:

JOHNSTON COUNTY GIS  
DATED 2013

SCALE AS SHOWN



#### FIGURE 3 MONITORING WELL LOCATION MAP

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226





#### LEGEND

- MW-3** ● Approximate Location of Monitoring Well
- 256.32 Groundwater Elevation
- Groundwater Contour Line
- - - Estimated Groundwater Contour Line
- ➔ Estimated Direction of Groundwater Flow

\* The site vertical datum is based on NAV88 and the horizontal datum is based on NAD83.



Scale: 1 inch = 60 feet

#### SOURCE:

JOHNSTON COUNTY GIS  
DATED 2013

SCALE AS SHOWN




#### FIGURE 4 GROUNDWATER ELEVATION MAP

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226






#### LEGEND

- MW-3**  Approximate Location of Monitoring Well
- 1.3 Concentrations Above Laboratory Reporting Limits ( $\mu\text{g/L}$ )
- 18.4** Bold Concentrations Above the NCDENR GWQS and/or NC2LGWQS ( $\mu\text{g/L}$ )
- BRL Below Laboratory Reporting Limit



  
Scale: 1 inch = 60 feet

#### SOURCE:

JOHNSTON COUNTY GIS  
DATED 2013

SCALE AS SHOWN



#### FIGURE 5 GROUNDWATER CONCENTRATION MAP

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226






#### LEGEND

- MW-3** ● Approximate Location of Monitoring Well
- Naphthalene Isoconcentration Contour
- 18.4** Bold Concentrations Above NCDENR GWQS
- BRL Below Laboratory Reporting Limit



  
Scale: 1 inch = 60 feet

#### SOURCE:

JOHNSTON COUNTY GIS  
DATED 2013

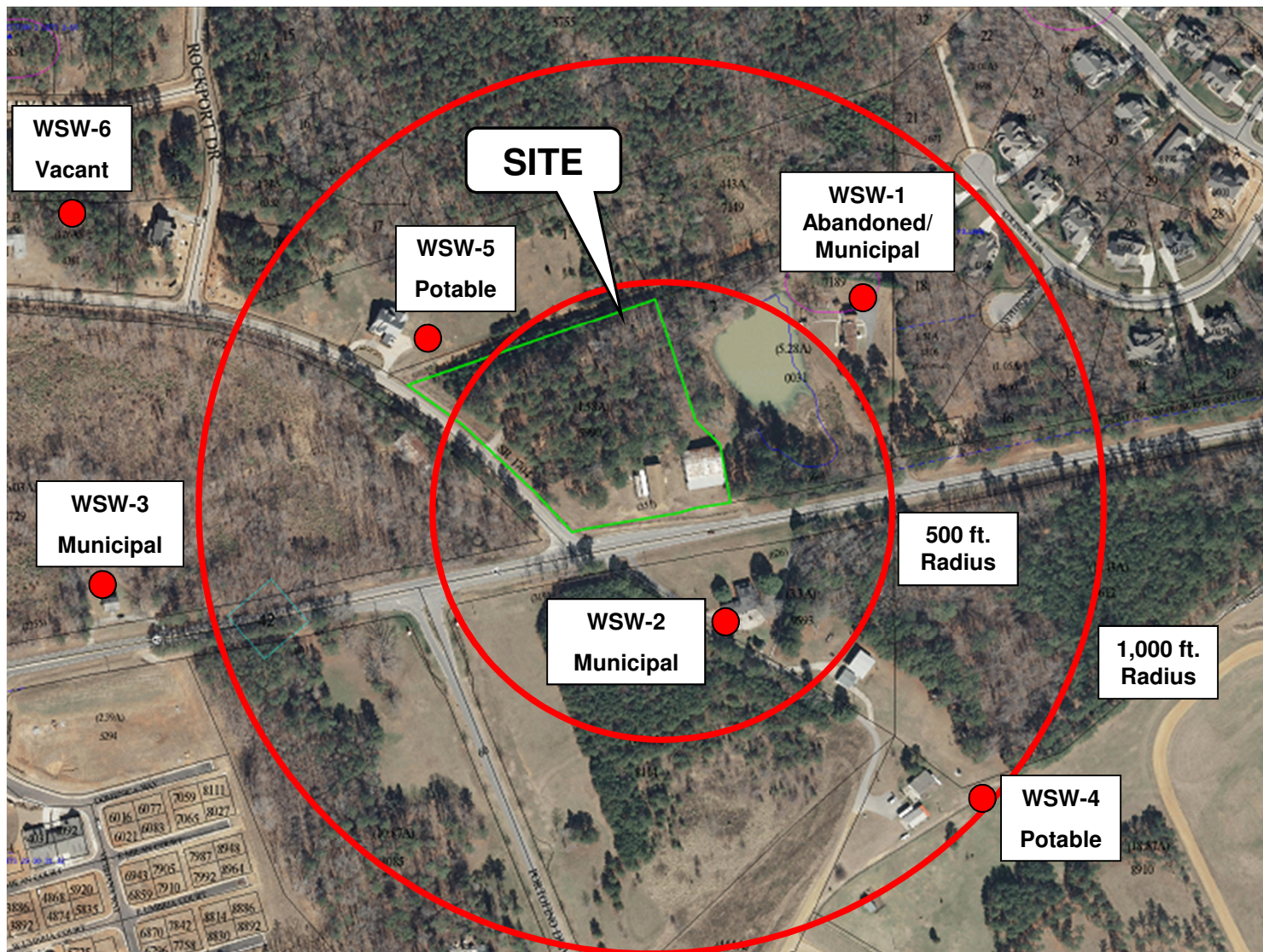
SCALE AS SHOWN



#### FIGURE 6 NAPHTHALENE ISOCONCENTRATION MAP

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226





#### LEGEND

WSW-5  Approximate Location of Water Supply Well

0 361

Scale: 1 inch = 361 feet

#### SOURCE:

JOHNSTON COUNTY GIS  
DATED 2013

SCALE AS SHOWN



#### FIGURE 7 WATER SUPPLY WELL LOCATION MAP

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSTON COUNTY,  
NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT: 49:1226



## **TABLES**

**Table 1**  
**UST Information**  
**Flowers Store Property**  
**4181 NC Highway 42 East**  
**Clayton, Johnston County, North Carolina**  
**NCDEQ Incident: 17217**  
**ECS Project 49:1226**

UST ID Number	Last Contents	Previous Contents	Capacity (in Gallons)	Construction Details	Tank Dimensions	Installation Date	Removal Date	Status
1	Gasoline	Gasoline	8,000	Unknown	8' x 22'	Unknown	August 1994	Removed
2	Kerosene/Diesel	Kerosene/Diesel	1,000	Unknown	4' x 12'	Unknown	August 1994	Removed
3	Diesel	Diesel	6,000	Unknown	8' x 15'	Unknown	August 1994	Removed
4	Gasoline	Gasoline	1,000	Unknown	4' x 12'	Unknown	April 2006	Removed

**Table 2**  
**Well Construction and Groundwater Elevation Details**  
**Flowers Store Property**  
**4181 NC Highway 42 East**  
**Clayton, Johnston County, North Carolina**  
**NCDEQ Incident: 17217**  
**ECS Project 49:1226**

Monitoring Well ID	Date Measured	Depth to Groundwater (ft. btoc)	Date Installed	Total Well Depth (ft. btoc)	Screen Interval (ft. btoc)	TOC Elevation *	Groundwater Elevation
MW-3	1/26/2016	18.42	2/13/2013	35	20-35	275.23	256.81
MW-5	1/26/2016	27.52	2/13/2013	38	23-38	276.22	248.70
MW-7	1/26/2016	13.38	2/13/2013	40	20-40	271.18	257.80
MW-8	1/26/2016	16.40	6/10/2015	30	20-30	276.78	260.38
MW-9	1/26/2016	27.14	6/10/2015	30	20-30	274.17	247.03
MW-10	1/26/2016	27.64	6/10/2015	49	39-49	279.20	251.56

ft. btoc = Feet Below Top of Casing

TOC = Top of Casing

\* = Survey performed by Bateman Civil Survey on June 25, 2015. The site vertical datum is based on NAV88 and the horizontal datum is based on NAD83.

**Table 3**  
**Summary of Current Groundwater Analytical Results**  
**Flowers Store Property**  
**4181 NC Highway 42 East**  
**Clayton, Johnston County, North Carolina**  
**NCDEQ Incident: 17217**  
**ECS Project 49:1226**

Analytical Method		Standard Method 6200B											
Sample ID	Sample Date	Bromodichloromethane	sec-Butylbenzene	Chloroform	Dibromochloromethane	Isopropylbenzene	Naphthalene	n-Propylbenzene	1,2-Dichloropropane	1,4- Dichlorobenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes
MW-3	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-5	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-7	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-8	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-9	1/26/2016	BRL	1.3	BRL	BRL	1.0	<b>18.4</b>	2.0	BRL	0.51	8.5	16.3	1.2
MW-10	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
WSW-2	1/26/2016	<b>5.4</b>	BRL	11.8	<b>1.3</b>	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
WSW-4	1/26/2016	<b>6.0</b>	BRL	13.3	<b>1.3</b>	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
WSW-5	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	<b>1.7</b>	BRL	BRL	BRL	BRL
NC2LGWS (µg/L)		0.6	70	70	0.4	70	6	70	0.6	6	400	400	500
GCL (µg/L)		NE	8,500	70,000	400	25,000	6,000	30,000	600	6,000	28,500	25,000	85,500

NC2LGWQS = North Carolina 2L Groundwater Quality Standard as of April 1, 2013

GCL = NCDEQ's Gross Contamination Levels for Groundwater as of April 16, 2012

µg/L = Micrograms per Liter

NE = Not Established

BRL = Below Laboratory Reporting Limit

**Bold** = Detected above NC2LGWQS

Table 4  
Summary of Historical Groundwater Analytical Results  
Flowers Store Property  
4181 NC Highway 42 East  
Clayton, Johnston County, North Carolina  
NCDEQ Incident: 17217  
ECS Project 49:1226

Analytical Method		Standard Method 6200B (or equivalent)												EPA Method 625	MADEP EPH/VPH			EPA Method 6010
Contaminant of Concern (µg/L)		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	Acetone	n-Butylbenzene	sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	n-Propylbenzene	Naphthalene	Total Xylenes	Tetrachloroethene	di-n-Butyl phthalate	C9-C18 Aliphatics	C19-C36Aliphatics	C9-C22 Aromatics	Lead
Monitoring Well ID	Date																	
TW-1	9/2/2008	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	6.68	67	91	350	250
	9/30/2009	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.89	BRL	BRL	BRL	BRL	BRL
	10/4/2012	Destroyed																
TW-2	9/2/2008	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
	9/30/2009	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.71	BRL	BRL	BRL	BRL	BRL
	10/4/2012	Destroyed																
MW-3 (TW-3)	9/2/2008	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
	9/30/2009	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	11
	10/4/2012	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
	2/19/2013	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.15 J	BRL	BRL	BRL	BRL	7.2
	8/13/2014	Destroyed																
	6/11/2015	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
TW-4	9/2/2008	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
	9/30/2009	Well Dry																
	10/4/2012	Destroyed																
MW-5	2/19/2013	0.27 J	0.46 J	BRL	5.2 J	1.2	0.29	BRL	0.49 J	BRL	BRL	BRL	BRL	BRL	110	BRL	BRL	15
	8/13/2014	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	1,746.7	BRL	649	21.5
	6/11/2015	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
MW-7	2/19/2013	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.53
	8/13/2014	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
	6/12/2015	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
MW-8	6/12/2015	BRL	BRL	0.61	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
MW-9	6/12/2015	15.7	27.7	BRL	BRL	BRL	2.1	1.6	BRL	3.3	17.1	3.7	BRL	NS	NS	NS	NS	NS
	1/26/2016	8.5	16.3	0.51	BRL	BRL	1.3	0.97	BRL	2.0	18.4	1.2	BRL	NS	NS	NS	NS	NS
MW-10	6/12/2015	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
	1/26/2016	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	NS	NS	NS	NS	NS
NC2LGWQS (µg/L)		400	400	6	6,000	70	70	70	25	70	6	500	1	700	4,200	42,000	210	15
GCL (µg/L)		28,500	25,000	6,000	6,000,000	6,900	8,500	25,000	11,700	30,000	6,000	85,500	700	NE	NE	NE	NE	15,000

NC2LGWQS = North Carolina 2L Groundwater Quality Standard as of April 1, 2013  
GCL = NCDEQ's Gross Contamination Levels for Groundwater as of April 16, 2012  
**Bold** = Detected above the NC2LGWQS  
µg/L = Micrograms per Liter  
BRL = Below Laboratory Reporting Limit  
NS = Not Sampled  
J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit  
NE = Not Established

**Table 5**  
**Summary of Current Historical Water Supply Well Analytical Results**  
**Flowers Store Property**  
**4181 NC Highway 42 East**  
**Clayton, Johnston County, North Carolina**  
**NCDEQ Incident: 17217**  
**ECS Project 49:1226**

Analytical Method		Standard Method 6200B (or equivalent)					MADEP EPH/VPH		
Contaminant of Concern (ug/L)									
Water Supply Well ID	Date Collected	Bromodichloromethane	Bis (2-ethylhexyl) Phthalate	Chloroform	Dibromochloromethane	1,2-Dichloropropane	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics
WSW-1	6/17/2008	BRL	<b>10.4</b>	BRL	BRL	BRL	59	160	160
WSW-2	1/26/2016	5.4	BRL	11.8	1.3	BRL	NS	NS	NS
WSW-4	6/17/2008	BRL	1.22	BRL	BRL	BRL	56	130	150
	8/13/2014	12.6	BRL	39.4	<b>4.3</b>	BRL	NS	NS	NS
	6/11/2015	12.4	BRL	24.1	<b>4.6</b>	BRL	NS	NS	NS
	1/26/2016	6.0	BRL	13.3	<b>1.3</b>	BRL	NS	NS	NS
WSW-5	8/13/2014	BRL	BRL	BRL	BRL	<b>1.4</b>	NS	NS	NS
	6/11/2015	BRL	BRL	BRL	BRL	<b>2.1</b>	NS	NS	NS
	1/26/2016	BRL	BRL	BRL	BRL	<b>1.7</b>	NS	NS	NS
WSW-6	8/13/2014	BRL	BRL	BRL	BRL	BRL	NS	NS	NS
NC2LGWQS		NE	3	70	0.4	0.6	700	10,000	200
GCL (µg/L)		NE	170	70,000	400	600	NE	NE	NE

NC2LGWQS = North Carolina 2L Groundwater Quality Standard as of April 1, 2013

GCL = NCDEQ's Gross Contamination Levels for Groundwater as of April 16, 2012

**Bold** = Detected above the NC2LGWQS

µg/L = Micrograms per Liter

NE = Not Established

NS = Not Sampled

BRL = Below Laboratory Reporting Limit

**Table 6**  
**Summary of Historical Soil Sample Analytical Results**  
**Flowers Store Property**  
**4181 NC Highway 42 East**  
**Clayton, Johnston County, North Carolina**  
**NCDEQ Incident: 17217**  
**ECS Project 49:1226**

Analytical Method			EPA Method 8260B			EPA Method 8270D		MADEP EPH/VPH		
Contaminant of Concern (mg/kg)			1,3,5-Trimethylbenzene	n-Butylbenzene	sec-Butylbenzene	bis(2-Ethylhexyl)phthalate	Benzoic Acid	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
Sample ID	Depth Collected (Ft.)	Date Collected								
SB-5	1	2/13/2013	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SB-5	13	2/13/2013	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SB-5	18	2/13/2013	BRL	BRL	BRL	BRL	0.26	BRL	39	BRL
SB-5	23	2/13/2013	0.0020	0.0049	0.0011J	0.22	3.7	128	46	<b>75</b>
Soil to Groundwater MSCC			8.3	4.3	3.3	6.6	120	540	Immobile	31
Residential MSCC			782	626	626	46	62,571	1,500	31,000	469
Industrial/Commercial MSCC			20,440	16,350	16,350	410	1,635,200	40,000	810,000	12,264

NCDEQ = North Carolina Department of Environmental Quality

MSCC = Maximum Soil Contaminant Concentration Levels

mg/kg = milligrams per kilogram

BRL = Below Laboratory Reporting Limit

**Table 7**  
**Water Supply Well Survey**  
**Flowers Store Property**  
**4181 NC Highway 42 East**  
**Clayton, Johnson County, North Carolina**  
**NCDEQ Incident: 17217**  
**ECS Project 49:1226**

Water Supply Well	Parcel Address	Owner	Owner Address	Water Well Status	Connected to Municipal Water	Approximate Distance from Source Area
WSW-1	4181 NC Highway 42 Clayton, NC 27527	Flowers, Pamela	105 Southridge Drive Garner, NC 27527	Abandoned	Yes	540 feet northeast
WSW-2	4116 NC Highway 42 Clayton, NC 27527	Flowers, Jimmy	4116 NC Highway 42 Clayton, NC 27527	Unknown	Yes	350 feet south
WSW-3	Not Listed	Flowers, Peggy	4400 NC Highway 42 Clayton, NC 27527	Unknown	Yes	1,000+ feet west
WSW-4	4300 NC Highway 42 Clayton, NC 27527	Valcourt, Richard J and Blanchard, Sarah	4709 Chickpay Dr Raleigh NC, 27610	Potable	No	975 feet southeast
WSW-5	160 Motorcycle Rd Clayton, NC 27527	Robertson, Drake	160 Motorcycle Rd Clayton, NC 27527	Potable	No	525 feet northwest
WSW-6	270 Motorcycle Rd Clayton, NC 27527	Pineville Chapel Church	270 Motorcycle Road Clayton, NC 27527	Unknown	Unknown	1,000+ feet northwest



## **APPENDIX A**



## DAILY FIELD LOG

Project Name: Flowers Store

Date: 1-26-16

ECS Field Personnel: PMS

Weather: Sunny, mild

Subcontractors: \_\_\_\_\_

Others on Site: \_\_\_\_\_

Time On-Site: ~ 9:30

Time Off-Site: \_\_\_\_\_

### SCOPE OF WORK

### FIELD ACTIVITIES

(9:30)

~ Arrived on-site, opened MW-7, MW-8, MW-3, MW-5, MW-9, & MW-10

- MW-7 @ 13.38' btoC; started pumping @ 11:25, started sampling @ 11:48

- MW-8 @ 16.40' btoC; started pumping @ 11:52, started sampling @ 12:15

- MW-3 @ 18.42' btoC; started pumping @ 12:18, started sampling @ 12:41

- MW-5 @ 27.52' btoC; started pumping @ 12:45, started sampling @ 13:08

- MW-9 @ 27.14' btoC; started pumping @ 13:11, started sampling @ 13:34

- MW-10 @ 27.64' btoC; 10:45

- closed all wells and left site ~ 14:00

- WSW-2 @ 14:25

- WSW-4 @ 14:45

- WSW-3 not available, could not locate faucet, nobody is home

- WSW-5 @ 15:10

- WSW-6 not available, tried faucet but no water, appears abandoned

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## MONITORING WELL SAMPLING WORKSHEET

MONITORING WELL ID: <u>MMW-10</u>		ECS PROJECT No.	
PROJECT NAME: <u>Flowers Mart</u>		SITE: _____	
WELL DEPTH: <u>49'</u>		DATE: <u>1-26-15</u>	
SCREEN INTERVAL: <u>39-49'</u> FT.		WELL DIAMETER: <u>2 inch</u>	
HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: <u>NA</u>		CASING MATERIAL: <u>PVC</u>	
SAMPLING DEVICE: <u>Peristaltic Pump/YSI 556</u>		TUBING TYPE: <u>Poly</u>	
MEASURING POINT: <u>TOC</u>		DEPTH TO GROUNDWATER: <u>27.64'</u> ft. btoc	
SAMPLING PERSONNEL <u>D. Martino</u>		DEVICE: <u>Peristaltic Pump/YSI 556</u>	
		TUBING TYPE: <u>Poly</u>	
STEEL GUARD PIPE AROUND CASING:	<input type="checkbox"/>	YES	<input type="checkbox"/> NO
LOCKING CAP:	<input type="checkbox"/>	YES	<input type="checkbox"/> NO
PROTECTIVE POST/ABUTMENT:	<input type="checkbox"/>	YES	<input type="checkbox"/> NO
ID PLATE:	<input type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL INTEGRITY SATISFACTORY:	<input type="checkbox"/>	YES	<input type="checkbox"/> NO
WELL YIELD:	<input type="checkbox"/>	HIGH	<input type="checkbox"/> MODERATE <input type="checkbox"/>

**COMMENTS:**

[illegible]

## NOTES

(1) Turbidity visual dtermination: (1) clear (2) slightly cloudy (3) cloudy (4) very cloudy



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## MONITORING WELL SAMPLING WORKSHEET

MONITORING WELL ID: MW-7

ECS PROJECT No.

**PROJECT NAME:**

**SITE:**

DATE: 1-26-10

WELL DEPTH: 40' SCREEN INTERVAL: 20-40' FT. WELL DIAMETER: 2 inch

HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: NA CASING MATERIAL: PVC

SAMPLING DEVICE: Peristaltic Pump/YSI 556 TUBING TYPE: Poly

MEASURING POINT: TOC DEPTH TO GROUNDWATER: 13,391 ft. btoc

SAMPLING PERSONNEL: D. Martino      DEVICE: Peristaltic Pump/YSI 556      TUBING TYPE: Poly

**STEEL GUARD PIPE AROUND CASING:**

**YES**

NO

NO

**LOCKING CAP:**

**YES**

**NO**

**NO**

**PROTECTIVE POST/ABUTMENT:**

**YES**

NO

NO

**ID PLATE:**

**YES**

**NO**

**NO**

**WELL INTEGRITY SATISFACTORY:**

**YES**

NO

NO

**WELL YIELD:**

## HIGH

**MODERATE**

☐ LOW

**COMMENTS:**

[illegible]

## NOTES

(1) Turbidity visual determination: (1) clear (2) slightly cloudy (3) cloudy (4) very cloudy



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## MONITORING WELL SAMPLING WORKSHEET

MONITORING WELL ID: MW-8

ECS PROJECT No.

**PROJECT NAME:**

SITE:

DATE: 1-26-16

WELL DEPTH: 30' SCREEN INTERVAL: 20-30' FT. WELL DIAMETER: 2 inch

HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: NA CASING MATERIAL: PVC

SAMPLING DEVICE: Peristaltic Pump/YSI 556 TUBING TYPE: Poly

MEASURING POINT: TOC DEPTH TO GROUNDWATER: 6.40' ft. btoc

SAMPLING PERSONNEL	D. Martino	DEVICE:	Peristaltic Pump/YSI 556	TUBING TYPE:	Poly
--------------------	------------	---------	--------------------------	--------------	------

**STEEL GUARD PIPE AROUND CASING:**

**YES**

NO

NO

**LOCKING CAP:**

**YES**

NO

NO

**PROTECTIVE POST/ABUTMENT:**

**YES**

**NO**

**NO**

**ID PLATE:**

**YES**

NO

NO

**WELL INTEGRITY SATISFACTORY:**

**YES**

**NO**

**NO**

**WELL YIELD:**

## HIGH

**MODERATE**

☐ LOW**COMMENTS:**[illegible]

## NOTES

(1) Turbidity visual determination: (1) clear (2) slightly cloudy (3) cloudy (4) very cloudy



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## MONITORING WELL SAMPLING WORKSHEET

MONITORING WELL ID: MW-3

ECS PROJECT No.

**PROJECT NAME:**

**SITE:**

DATE: 1-26-16

WELL DEPTH: 35' SCREEN INTERVAL: 20-35' FT. WELL DIAMETER: 2 inch

**WELL DIAMETER:** 2 inch

HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: NA CASING MATERIAL: PVC

CASING MATERIAL: PVC

SAMPLING DEVICE: Peristaltic Pump/YSI 556 TUBING TYPE: Poly

TYPE: Poly

MEASURING POINT:	TOC	DEPTH TO GROUNDWATER:	18.42'	ft. btoc
------------------	-----	-----------------------	--------	----------

DEPTH TO GROUNDWATER: 18.42'

ft. btoc

SAMPLING PERSONNEL	D. Martino	DEVICE:	Peristaltic Pump/YSI 556	TUBING TYPE:	Poly
--------------------	------------	---------	--------------------------	--------------	------

**DEVICE:** Peristaltic Pump/YSI 556

**TUBING TYPE:**

Poly

**STEEL GUARD PIPE AROUND CASING:**

**YES**

**NO**

**NO**

**LOCKING CAP:**

**YES**

**NO**

**PROTECTIVE POST/ABUTMENT:**

**YES**

**NO**

ID PLATE:

**YES**

**NO**

**WELL INTEGRITY SATISFACTORY:**

**YES**

NO

**WELL YIELD:**

## HIGH

**MODERATE**

**LOW**

**COMMENTS:**[illegible]

## NOTES

(1) Turbidity visual determination: (1) clear (2) slightly cloudy (3) cloudy (4) very cloudy



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## MONITORING WELL SAMPLING WORKSHEET

MONITORING WELL ID: MW-5

ECS PROJECT No.

**PROJECT NAME:**

**SITE:**

DATE: 1-26-16

WELL DEPTH: 38' SCREEN INTERVAL: 23-38' FT. WELL DIAMETER: 2 inch

HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: NA CASING MATERIAL: PVC

SAMPLING DEVICE: Peristaltic Pump/YSI 556 TUBING TYPE: Poly

MEASURING POINT: TOC DEPTH TO GROUNDWATER: 27.52' ft. btoc

SAMPLING PERSONNEL	D. Martino	DEVICE:	Peristaltic Pump/YSI 556	TUBING TYPE:	Poly
--------------------	------------	---------	--------------------------	--------------	------

**STEEL GUARD PIPE AROUND CASING:**

**YES**

NO

NO

**LOCKING CAP:**

**YES**

NO

**NO**

**PROTECTIVE POST/ABUTMENT:**

**YES**

NO

NO

ID PLATE:

**YES**

NO

NO

**WELL INTEGRITY SATISFACTORY:**

**YES**

NO

**NO**  
**EPAT**

**WELL YIELD:**

**HIGH**

**MODERAT**

**LOW**

**COMMENTS:**

[illegible]

## NOTES

(1) Turbidity visual determination: (1) clear (2) slightly cloudy (3) cloudy (4) very cloudy



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## MONITORING WELL SAMPLING WORKSHEET

MONITORING WELL ID: MW-9

ECS PROJECT No.

PROJECT NAME:

**SITE:**

DATE: 1-26-16

WELL DEPTH: 30' SCREEN INTERVAL: 2-30' FT. WELL DIAMETER: 2 inch

HEIGHT OF MEASURING POINT ABOVE LAND SURFACE: NA CASING MATERIAL: PVC

SAMPLING DEVICE: Peristaltic Pump/YSI 556 TUBING TYPE: Poly

MEASURING POINT: TOC DEPTH TO GROUNDWATER: 27.141 ft. btoc

SAMPLING PERSONNEL	D. Martino	DEVICE:	Peristaltic Pump/YSI 556	TUBING TYPE:	Poly
--------------------	------------	---------	--------------------------	--------------	------

**STEEL GUARD PIPE AROUND CASING:**

**YES**

**NO**

**LOCKING CAP:**

**YES**

**NO**

**PROTECTIVE POST/ABUTMENT:**

**YES**

**NO**

**ID PLATE:**

**YES**

NO

**WELL INTEGRITY SATISFACTORY:**

**YES**

NO

**WELL YIELD:**

**HIGH**

**MODERATE**

**LOW**

**COMMENTS:**[illegible]

## NOTES

(1) Turbidity visual determination: (1) clear (2) slightly cloudy (3) cloudy (4) very cloudy



## **APPENDIX B**



**Photograph 1: View of the subject site. View is to the northeast.**



**Photograph 2: View of monitoring well MW-8**



#### **SITE PHOTOGRAPHS**

FLOWERS STORE PROPERTY  
4181 NC HIGHWAY 42 EAST  
CLAYTON, JOHNSON COUNTY, NORTH CAROLINA  
NCDEQ INCIDENT: 17217  
ECS PROJECT NO 49:1226

## **APPENDIX C**

February 02, 2016

Matthew Gillis  
ECS  
9001 Glenwood Avenue  
Raleigh, NC 27617

RE: Project: FLOWERS STORE PROPERTY  
Pace Project No.: 92284408

Dear Matthew Gillis:

Enclosed are the analytical results for sample(s) received by the laboratory on January 27, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Taylor Ezell  
taylor.ezell@pacelabs.com  
Project Manager

Enclosures

cc: Brian Smith, ECS Carolinas LLP



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

---

### Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12  
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
West Virginia Certification #: 357  
Virginia/VELAP Certification #: 460221

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## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92284408005</b>	<b>MW-9</b>					
SM 6200B	sec-Butylbenzene	1.3	ug/L	0.50	02/02/16 03:01	
SM 6200B	1,4-Dichlorobenzene	0.51	ug/L	0.50	02/02/16 03:01	
SM 6200B	Isopropylbenzene (Cumene)	0.97	ug/L	0.50	02/02/16 03:01	
SM 6200B	Naphthalene	18.4	ug/L	2.0	02/02/16 03:01	
SM 6200B	n-Propylbenzene	2.0	ug/L	0.50	02/02/16 03:01	
SM 6200B	1,2,4-Trimethylbenzene	8.5	ug/L	0.50	02/02/16 03:01	
SM 6200B	1,3,5-Trimethylbenzene	16.3	ug/L	0.50	02/02/16 03:01	
SM 6200B	o-Xylene	1.2	ug/L	0.50	02/02/16 03:01	
<b>92284408007</b>	<b>WSW-2</b>					
SM 6200B	Bromodichloromethane	5.4	ug/L	0.50	02/02/16 03:35	
SM 6200B	Chloroform	11.8	ug/L	0.50	02/02/16 03:35	
SM 6200B	Dibromochloromethane	1.3	ug/L	0.50	02/02/16 03:35	
<b>92284408008</b>	<b>WSW-4</b>					
SM 6200B	Bromodichloromethane	6.0	ug/L	0.50	02/02/16 03:52	
SM 6200B	Chloroform	13.3	ug/L	0.50	02/02/16 03:52	
SM 6200B	Dibromochloromethane	1.3	ug/L	0.50	02/02/16 03:52	
<b>92284408009</b>	<b>WSW-5</b>					
SM 6200B	1,2-Dichloropropane	1.7	ug/L	0.50	02/02/16 04:09	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-7		Lab ID: 92284408001		Collected: 01/26/16 11:48		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/01/16 17:42	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/01/16 17:42	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/01/16 17:42	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/01/16 17:42	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/01/16 17:42	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/01/16 17:42	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/01/16 17:42	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/01/16 17:42	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/01/16 17:42	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/01/16 17:42	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/01/16 17:42	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/01/16 17:42	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/01/16 17:42	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/01/16 17:42	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/01/16 17:42	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/01/16 17:42	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/01/16 17:42	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 17:42	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 17:42	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 17:42	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/01/16 17:42	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/01/16 17:42	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/01/16 17:42	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/01/16 17:42	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/01/16 17:42	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/01/16 17:42	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/01/16 17:42	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/01/16 17:42	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/01/16 17:42	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/01/16 17:42	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/01/16 17:42	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/01/16 17:42	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/01/16 17:42	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/01/16 17:42	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/01/16 17:42	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/01/16 17:42	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/01/16 17:42	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/01/16 17:42	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	103-65-1		
Styrene	ND	ug/L	0.50	1		02/01/16 17:42	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/01/16 17:42	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/01/16 17:42	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/01/16 17:42	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-7		Lab ID: 92284408001		Collected: 01/26/16 11:48		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/01/16 17:42	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/01/16 17:42	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/01/16 17:42	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/01/16 17:42	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/01/16 17:42	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/01/16 17:42	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/01/16 17:42	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/01/16 17:42	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/01/16 17:42	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/01/16 17:42	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/01/16 17:42	179601-23-1		
o-Xylene	ND	ug/L	0.50	1		02/01/16 17:42	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130	1		02/01/16 17:42	17060-07-0		
4-Bromofluorobenzene (S)	99	%	70-130	1		02/01/16 17:42	460-00-4		
Toluene-d8 (S)	101	%	70-130	1		02/01/16 17:42	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-8		Lab ID: 92284408002		Collected: 01/26/16 12:15		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/01/16 17:59	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/01/16 17:59	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/01/16 17:59	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/01/16 17:59	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/01/16 17:59	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/01/16 17:59	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/01/16 17:59	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/01/16 17:59	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/01/16 17:59	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/01/16 17:59	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/01/16 17:59	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/01/16 17:59	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/01/16 17:59	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/01/16 17:59	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/01/16 17:59	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/01/16 17:59	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/01/16 17:59	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 17:59	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 17:59	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 17:59	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/01/16 17:59	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/01/16 17:59	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/01/16 17:59	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/01/16 17:59	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/01/16 17:59	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/01/16 17:59	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/01/16 17:59	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/01/16 17:59	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/01/16 17:59	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/01/16 17:59	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/01/16 17:59	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/01/16 17:59	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/01/16 17:59	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/01/16 17:59	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/01/16 17:59	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/01/16 17:59	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/01/16 17:59	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/01/16 17:59	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	103-65-1		
Styrene	ND	ug/L	0.50	1		02/01/16 17:59	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/01/16 17:59	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/01/16 17:59	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/01/16 17:59	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-8		Lab ID: 92284408002		Collected: 01/26/16 12:15		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/01/16 17:59	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/01/16 17:59	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/01/16 17:59	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/01/16 17:59	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/01/16 17:59	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/01/16 17:59	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/01/16 17:59	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/01/16 17:59	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/01/16 17:59	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/01/16 17:59	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/01/16 17:59	179601-23-1		
o-Xylene	ND	ug/L	0.50	1		02/01/16 17:59	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		02/01/16 17:59	17060-07-0		
4-Bromofluorobenzene (S)	100	%	70-130	1		02/01/16 17:59	460-00-4		
Toluene-d8 (S)	101	%	70-130	1		02/01/16 17:59	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-3		Lab ID: 92284408003		Collected: 01/26/16 12:41		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/01/16 18:16	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/01/16 18:16	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/01/16 18:16	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/01/16 18:16	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/01/16 18:16	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/01/16 18:16	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/01/16 18:16	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/01/16 18:16	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/01/16 18:16	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/01/16 18:16	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/01/16 18:16	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/01/16 18:16	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/01/16 18:16	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/01/16 18:16	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/01/16 18:16	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/01/16 18:16	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/01/16 18:16	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 18:16	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 18:16	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/01/16 18:16	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/01/16 18:16	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/01/16 18:16	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/01/16 18:16	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/01/16 18:16	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/01/16 18:16	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/01/16 18:16	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/01/16 18:16	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/01/16 18:16	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/01/16 18:16	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/01/16 18:16	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/01/16 18:16	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/01/16 18:16	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/01/16 18:16	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/01/16 18:16	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/01/16 18:16	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/01/16 18:16	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/01/16 18:16	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/01/16 18:16	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	103-65-1		
Styrene	ND	ug/L	0.50	1		02/01/16 18:16	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/01/16 18:16	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/01/16 18:16	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/01/16 18:16	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-3		Lab ID: 92284408003		Collected: 01/26/16 12:41		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/01/16 18:16	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/01/16 18:16	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/01/16 18:16	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/01/16 18:16	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/01/16 18:16	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/01/16 18:16	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/01/16 18:16	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/01/16 18:16	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/01/16 18:16	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/01/16 18:16	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/01/16 18:16	179601-23-1		
o-Xylene	ND	ug/L	0.50	1		02/01/16 18:16	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		02/01/16 18:16	17060-07-0		
4-Bromofluorobenzene (S)	99	%	70-130	1		02/01/16 18:16	460-00-4		
Toluene-d8 (S)	100	%	70-130	1		02/01/16 18:16	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-5		Lab ID: 92284408004		Collected: 01/26/16 13:08		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/02/16 02:44	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/02/16 02:44	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/02/16 02:44	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/02/16 02:44	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/02/16 02:44	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/02/16 02:44	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/02/16 02:44	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/02/16 02:44	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/02/16 02:44	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/02/16 02:44	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/02/16 02:44	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 02:44	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 02:44	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/02/16 02:44	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/02/16 02:44	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/02/16 02:44	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/02/16 02:44	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 02:44	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 02:44	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 02:44	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/02/16 02:44	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/02/16 02:44	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/02/16 02:44	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/02/16 02:44	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 02:44	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 02:44	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 02:44	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/02/16 02:44	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 02:44	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/02/16 02:44	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 02:44	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 02:44	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/02/16 02:44	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/02/16 02:44	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/02/16 02:44	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/02/16 02:44	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/02/16 02:44	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/02/16 02:44	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	103-65-1		
Styrene	ND	ug/L	0.50	1		02/02/16 02:44	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 02:44	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 02:44	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/02/16 02:44	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-5		Lab ID: 92284408004		Collected: 01/26/16 13:08		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/02/16 02:44	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 02:44	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 02:44	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/02/16 02:44	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/02/16 02:44	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/02/16 02:44	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/02/16 02:44	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/02/16 02:44	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/02/16 02:44	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/02/16 02:44	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/02/16 02:44	179601-23-1		
o-Xylene	ND	ug/L	0.50	1		02/02/16 02:44	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		02/02/16 02:44	17060-07-0		
4-Bromofluorobenzene (S)	100	%	70-130	1		02/02/16 02:44	460-00-4		
Toluene-d8 (S)	99	%	70-130	1		02/02/16 02:44	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-9		Lab ID: 92284408005		Collected: 01/26/16 13:34		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/02/16 03:01	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/02/16 03:01	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/02/16 03:01	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/02/16 03:01	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/02/16 03:01	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/02/16 03:01	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:01	104-51-8		
sec-Butylbenzene	1.3	ug/L	0.50	1		02/02/16 03:01	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:01	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/02/16 03:01	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/02/16 03:01	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/02/16 03:01	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/02/16 03:01	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/02/16 03:01	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:01	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:01	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/02/16 03:01	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/02/16 03:01	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/02/16 03:01	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/02/16 03:01	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:01	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:01	541-73-1		
1,4-Dichlorobenzene	0.51	ug/L	0.50	1		02/02/16 03:01	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/02/16 03:01	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:01	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:01	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:01	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:01	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:01	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:01	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:01	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:01	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:01	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:01	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:01	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/02/16 03:01	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/02/16 03:01	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/02/16 03:01	87-68-3		
Isopropylbenzene (Cumene)	0.97	ug/L	0.50	1		02/02/16 03:01	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/02/16 03:01	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/02/16 03:01	1634-04-4		
Naphthalene	18.4	ug/L	2.0	1		02/02/16 03:01	91-20-3		
n-Propylbenzene	2.0	ug/L	0.50	1		02/02/16 03:01	103-65-1		
Styrene	ND	ug/L	0.50	1		02/02/16 03:01	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:01	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:01	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/02/16 03:01	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-9		Lab ID: 92284408005		Collected: 01/26/16 13:34		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/02/16 03:01	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 03:01	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 03:01	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/02/16 03:01	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/02/16 03:01	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/02/16 03:01	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/02/16 03:01	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/02/16 03:01	96-18-4		
1,2,4-Trimethylbenzene	8.5	ug/L	0.50	1		02/02/16 03:01	95-63-6		
1,3,5-Trimethylbenzene	16.3	ug/L	0.50	1		02/02/16 03:01	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/02/16 03:01	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/02/16 03:01	179601-23-1		
o-Xylene	1.2	ug/L	0.50	1		02/02/16 03:01	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130	1		02/02/16 03:01	17060-07-0		
4-Bromofluorobenzene (S)	99	%	70-130	1		02/02/16 03:01	460-00-4		
Toluene-d8 (S)	101	%	70-130	1		02/02/16 03:01	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-10		Lab ID: 92284408006		Collected: 01/26/16 11:08		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/02/16 03:18	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/02/16 03:18	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/02/16 03:18	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/02/16 03:18	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/02/16 03:18	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/02/16 03:18	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/02/16 03:18	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/02/16 03:18	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/02/16 03:18	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/02/16 03:18	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/02/16 03:18	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:18	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:18	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/02/16 03:18	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/02/16 03:18	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/02/16 03:18	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/02/16 03:18	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:18	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:18	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:18	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/02/16 03:18	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:18	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:18	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:18	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:18	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:18	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:18	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:18	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:18	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:18	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:18	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:18	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/02/16 03:18	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/02/16 03:18	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/02/16 03:18	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/02/16 03:18	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/02/16 03:18	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/02/16 03:18	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	103-65-1		
Styrene	ND	ug/L	0.50	1		02/02/16 03:18	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:18	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:18	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/02/16 03:18	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: MW-10		Lab ID: 92284408006		Collected: 01/26/16 11:08		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/02/16 03:18	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 03:18	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 03:18	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/02/16 03:18	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/02/16 03:18	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/02/16 03:18	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/02/16 03:18	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/02/16 03:18	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/02/16 03:18	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/02/16 03:18	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/02/16 03:18	179601-23-1		
o-Xylene	ND	ug/L	0.50	1		02/02/16 03:18	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	70-130	1		02/02/16 03:18	17060-07-0		
4-Bromofluorobenzene (S)	99	%	70-130	1		02/02/16 03:18	460-00-4		
Toluene-d8 (S)	100	%	70-130	1		02/02/16 03:18	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: WSW-2		Lab ID: 92284408007		Collected: 01/26/16 14:25		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/02/16 03:35	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/02/16 03:35	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/02/16 03:35	74-97-5		
Bromodichloromethane	5.4	ug/L	0.50	1		02/02/16 03:35	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/02/16 03:35	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/02/16 03:35	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:35	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:35	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:35	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/02/16 03:35	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/02/16 03:35	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/02/16 03:35	75-00-3		
Chloroform	11.8	ug/L	0.50	1		02/02/16 03:35	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/02/16 03:35	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:35	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:35	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/02/16 03:35	96-12-8		
Dibromochloromethane	1.3	ug/L	0.50	1		02/02/16 03:35	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/02/16 03:35	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/02/16 03:35	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:35	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:35	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:35	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/02/16 03:35	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:35	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:35	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:35	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:35	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:35	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:35	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:35	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:35	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:35	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:35	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:35	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/02/16 03:35	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/02/16 03:35	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/02/16 03:35	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/02/16 03:35	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/02/16 03:35	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/02/16 03:35	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/02/16 03:35	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/02/16 03:35	103-65-1		
Styrene	ND	ug/L	0.50	1		02/02/16 03:35	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:35	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:35	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/02/16 03:35	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: WSW-2		Lab ID: 92284408007		Collected: 01/26/16 14:25		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1			02/02/16 03:35	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1			02/02/16 03:35	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1			02/02/16 03:35	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1			02/02/16 03:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1			02/02/16 03:35	79-00-5	
Trichloroethene	ND	ug/L	0.50	1			02/02/16 03:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1			02/02/16 03:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1			02/02/16 03:35	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1			02/02/16 03:35	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1			02/02/16 03:35	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1			02/02/16 03:35	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1			02/02/16 03:35	179601-23-1	
o-Xylene	ND	ug/L	0.50	1			02/02/16 03:35	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	70-130	1			02/02/16 03:35	17060-07-0	
4-Bromofluorobenzene (S)	98	%	70-130	1			02/02/16 03:35	460-00-4	
Toluene-d8 (S)	99	%	70-130	1			02/02/16 03:35	2037-26-5	

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: WSW-4		Lab ID: 92284408008		Collected: 01/26/16 14:45		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/02/16 03:52	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/02/16 03:52	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/02/16 03:52	74-97-5		
Bromodichloromethane	6.0	ug/L	0.50	1		02/02/16 03:52	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/02/16 03:52	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/02/16 03:52	74-83-9		
n-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/02/16 03:52	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/02/16 03:52	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/02/16 03:52	75-00-3		
Chloroform	13.3	ug/L	0.50	1		02/02/16 03:52	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/02/16 03:52	74-87-3		
2-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:52	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 03:52	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/02/16 03:52	96-12-8		
Dibromochloromethane	1.3	ug/L	0.50	1		02/02/16 03:52	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/02/16 03:52	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/02/16 03:52	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:52	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:52	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 03:52	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/02/16 03:52	75-71-8		
1,1-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:52	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/02/16 03:52	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:52	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:52	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 03:52	156-60-5		
1,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:52	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:52	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 03:52	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:52	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:52	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 03:52	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/02/16 03:52	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/02/16 03:52	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/02/16 03:52	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/02/16 03:52	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/02/16 03:52	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/02/16 03:52	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	103-65-1		
Styrene	ND	ug/L	0.50	1		02/02/16 03:52	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:52	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 03:52	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/02/16 03:52	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: WSW-4		Lab ID: 92284408008		Collected: 01/26/16 14:45		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1		02/02/16 03:52	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 03:52	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1		02/02/16 03:52	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		02/02/16 03:52	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		02/02/16 03:52	79-00-5		
Trichloroethene	ND	ug/L	0.50	1		02/02/16 03:52	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		02/02/16 03:52	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	0.50	1		02/02/16 03:52	96-18-4		
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1		02/02/16 03:52	108-67-8		
Vinyl chloride	ND	ug/L	1.0	1		02/02/16 03:52	75-01-4		
m&p-Xylene	ND	ug/L	1.0	1		02/02/16 03:52	179601-23-1		
o-Xylene	ND	ug/L	0.50	1		02/02/16 03:52	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		02/02/16 03:52	17060-07-0		
4-Bromofluorobenzene (S)	101	%	70-130	1		02/02/16 03:52	460-00-4		
Toluene-d8 (S)	98	%	70-130	1		02/02/16 03:52	2037-26-5		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: WSW-5		Lab ID: 92284408009		Collected: 01/26/16 15:10		Received: 01/27/16 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6200B MSV		Analytical Method: SM 6200B							
Benzene	ND	ug/L	0.50	1		02/02/16 04:09	71-43-2		
Bromobenzene	ND	ug/L	0.50	1		02/02/16 04:09	108-86-1		
Bromochloromethane	ND	ug/L	0.50	1		02/02/16 04:09	74-97-5		
Bromodichloromethane	ND	ug/L	0.50	1		02/02/16 04:09	75-27-4		
Bromoform	ND	ug/L	0.50	1		02/02/16 04:09	75-25-2		
Bromomethane	ND	ug/L	5.0	1		02/02/16 04:09	74-83-9	M1	
n-Butylbenzene	ND	ug/L	0.50	1		02/02/16 04:09	104-51-8		
sec-Butylbenzene	ND	ug/L	0.50	1		02/02/16 04:09	135-98-8		
tert-Butylbenzene	ND	ug/L	0.50	1		02/02/16 04:09	98-06-6		
Carbon tetrachloride	ND	ug/L	0.50	1		02/02/16 04:09	56-23-5		
Chlorobenzene	ND	ug/L	0.50	1		02/02/16 04:09	108-90-7		
Chloroethane	ND	ug/L	1.0	1		02/02/16 04:09	75-00-3		
Chloroform	ND	ug/L	0.50	1		02/02/16 04:09	67-66-3		
Chloromethane	ND	ug/L	1.0	1		02/02/16 04:09	74-87-3	M1	
2-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 04:09	95-49-8		
4-Chlorotoluene	ND	ug/L	0.50	1		02/02/16 04:09	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	1		02/02/16 04:09	96-12-8		
Dibromochloromethane	ND	ug/L	0.50	1		02/02/16 04:09	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1		02/02/16 04:09	106-93-4		
Dibromomethane	ND	ug/L	0.50	1		02/02/16 04:09	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 04:09	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 04:09	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	0.50	1		02/02/16 04:09	106-46-7		
Dichlorodifluoromethane	ND	ug/L	0.50	1		02/02/16 04:09	75-71-8	M1	
1,1-Dichloroethane	ND	ug/L	0.50	1		02/02/16 04:09	75-34-3		
1,2-Dichloroethane	ND	ug/L	0.50	1		02/02/16 04:09	107-06-2		
1,1-Dichloroethene	ND	ug/L	0.50	1		02/02/16 04:09	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 04:09	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	0.50	1		02/02/16 04:09	156-60-5		
1,2-Dichloropropane	1.7	ug/L	0.50	1		02/02/16 04:09	78-87-5		
1,3-Dichloropropane	ND	ug/L	0.50	1		02/02/16 04:09	142-28-9		
2,2-Dichloropropane	ND	ug/L	0.50	1		02/02/16 04:09	594-20-7		
1,1-Dichloropropene	ND	ug/L	0.50	1		02/02/16 04:09	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 04:09	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	0.50	1		02/02/16 04:09	10061-02-6		
Diisopropyl ether	ND	ug/L	0.50	1		02/02/16 04:09	108-20-3		
Ethylbenzene	ND	ug/L	0.50	1		02/02/16 04:09	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	2.0	1		02/02/16 04:09	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1		02/02/16 04:09	98-82-8		
Methylene Chloride	ND	ug/L	2.0	1		02/02/16 04:09	75-09-2		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/02/16 04:09	1634-04-4		
Naphthalene	ND	ug/L	2.0	1		02/02/16 04:09	91-20-3		
n-Propylbenzene	ND	ug/L	0.50	1		02/02/16 04:09	103-65-1		
Styrene	ND	ug/L	0.50	1		02/02/16 04:09	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 04:09	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		02/02/16 04:09	79-34-5		
Tetrachloroethene	ND	ug/L	0.50	1		02/02/16 04:09	127-18-4		

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## ANALYTICAL RESULTS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

Sample: WSW-5		Lab ID: 92284408009		Collected: 01/26/16 15:10		Received: 01/27/16 09:50		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6200B MSV		Analytical Method: SM 6200B							
Toluene	ND	ug/L	0.50	1			02/02/16 04:09	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	1			02/02/16 04:09	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1			02/02/16 04:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	0.50	1			02/02/16 04:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1			02/02/16 04:09	79-00-5	
Trichloroethene	ND	ug/L	0.50	1			02/02/16 04:09	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1			02/02/16 04:09	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	0.50	1			02/02/16 04:09	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1			02/02/16 04:09	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1			02/02/16 04:09	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1			02/02/16 04:09	75-01-4	
m&p-Xylene	ND	ug/L	1.0	1			02/02/16 04:09	179601-23-1	
o-Xylene	ND	ug/L	0.50	1			02/02/16 04:09	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	70-130	1			02/02/16 04:09	17060-07-0	
4-Bromofluorobenzene (S)	99	%	70-130	1			02/02/16 04:09	460-00-4	
Toluene-d8 (S)	99	%	70-130	1			02/02/16 04:09	2037-26-5	

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

QC Batch: MSV/35395

Analysis Method: SM 6200B

QC Batch Method: SM 6200B

Analysis Description: 6200B MSV

Associated Lab Samples: 92284408001, 92284408002, 92284408003

METHOD BLANK: 1657756

Matrix: Water

Associated Lab Samples: 92284408001, 92284408002, 92284408003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	02/01/16 15:10	
1,1,1-Trichloroethane	ug/L	ND	0.50	02/01/16 15:10	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	02/01/16 15:10	
1,1,2-Trichloroethane	ug/L	ND	0.50	02/01/16 15:10	
1,1-Dichloroethane	ug/L	ND	0.50	02/01/16 15:10	
1,1-Dichloroethene	ug/L	ND	0.50	02/01/16 15:10	
1,1-Dichloropropene	ug/L	ND	0.50	02/01/16 15:10	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	02/01/16 15:10	
1,2,3-Trichloropropane	ug/L	ND	0.50	02/01/16 15:10	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	02/01/16 15:10	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	02/01/16 15:10	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	02/01/16 15:10	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	02/01/16 15:10	
1,2-Dichlorobenzene	ug/L	ND	0.50	02/01/16 15:10	
1,2-Dichloroethane	ug/L	ND	0.50	02/01/16 15:10	
1,2-Dichloropropane	ug/L	ND	0.50	02/01/16 15:10	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	02/01/16 15:10	
1,3-Dichlorobenzene	ug/L	ND	0.50	02/01/16 15:10	
1,3-Dichloropropane	ug/L	ND	0.50	02/01/16 15:10	
1,4-Dichlorobenzene	ug/L	ND	0.50	02/01/16 15:10	
2,2-Dichloropropane	ug/L	ND	0.50	02/01/16 15:10	
2-Chlorotoluene	ug/L	ND	0.50	02/01/16 15:10	
4-Chlorotoluene	ug/L	ND	0.50	02/01/16 15:10	
Benzene	ug/L	ND	0.50	02/01/16 15:10	
Bromobenzene	ug/L	ND	0.50	02/01/16 15:10	
Bromochloromethane	ug/L	ND	0.50	02/01/16 15:10	
Bromodichloromethane	ug/L	ND	0.50	02/01/16 15:10	
Bromoform	ug/L	ND	0.50	02/01/16 15:10	
Bromomethane	ug/L	ND	5.0	02/01/16 15:10	
Carbon tetrachloride	ug/L	ND	0.50	02/01/16 15:10	
Chlorobenzene	ug/L	ND	0.50	02/01/16 15:10	
Chloroethane	ug/L	ND	1.0	02/01/16 15:10	
Chloroform	ug/L	ND	0.50	02/01/16 15:10	
Chloromethane	ug/L	ND	1.0	02/01/16 15:10	
cis-1,2-Dichloroethene	ug/L	ND	0.50	02/01/16 15:10	
cis-1,3-Dichloropropene	ug/L	ND	0.50	02/01/16 15:10	
Dibromochloromethane	ug/L	ND	0.50	02/01/16 15:10	
Dibromomethane	ug/L	ND	0.50	02/01/16 15:10	
Dichlorodifluoromethane	ug/L	ND	0.50	02/01/16 15:10	
Diisopropyl ether	ug/L	ND	0.50	02/01/16 15:10	
Ethylbenzene	ug/L	ND	0.50	02/01/16 15:10	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

METHOD BLANK: 1657756

Matrix: Water

Associated Lab Samples: 92284408001, 92284408002, 92284408003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	2.0	02/01/16 15:10	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	02/01/16 15:10	
m&p-Xylene	ug/L	ND	1.0	02/01/16 15:10	
Methyl-tert-butyl ether	ug/L	ND	0.50	02/01/16 15:10	
Methylene Chloride	ug/L	ND	2.0	02/01/16 15:10	
n-Butylbenzene	ug/L	ND	0.50	02/01/16 15:10	
n-Propylbenzene	ug/L	ND	0.50	02/01/16 15:10	
Naphthalene	ug/L	ND	2.0	02/01/16 15:10	
o-Xylene	ug/L	ND	0.50	02/01/16 15:10	
sec-Butylbenzene	ug/L	ND	0.50	02/01/16 15:10	
Styrene	ug/L	ND	0.50	02/01/16 15:10	
tert-Butylbenzene	ug/L	ND	0.50	02/01/16 15:10	
Tetrachloroethene	ug/L	ND	0.50	02/01/16 15:10	
Toluene	ug/L	ND	0.50	02/01/16 15:10	
trans-1,2-Dichloroethene	ug/L	ND	0.50	02/01/16 15:10	
trans-1,3-Dichloropropene	ug/L	ND	0.50	02/01/16 15:10	
Trichloroethene	ug/L	ND	0.50	02/01/16 15:10	
Trichlorofluoromethane	ug/L	ND	1.0	02/01/16 15:10	
Vinyl chloride	ug/L	ND	1.0	02/01/16 15:10	
1,2-Dichloroethane-d4 (S)	%	99	70-130	02/01/16 15:10	
4-Bromofluorobenzene (S)	%	100	70-130	02/01/16 15:10	
Toluene-d8 (S)	%	101	70-130	02/01/16 15:10	

LABORATORY CONTROL SAMPLE: 1657757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.8	102	60-140	
1,1,1-Trichloroethane	ug/L	50	46.7	93	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	48.6	97	60-140	
1,1,2-Trichloroethane	ug/L	50	47.9	96	60-140	
1,1-Dichloroethane	ug/L	50	45.4	91	60-140	
1,1-Dichloroethene	ug/L	50	45.2	90	60-140	
1,1-Dichloropropene	ug/L	50	47.3	95	60-140	
1,2,3-Trichlorobenzene	ug/L	50	53.2	106	60-140	
1,2,3-Trichloropropane	ug/L	50	50.6	101	60-140	
1,2,4-Trichlorobenzene	ug/L	50	52.5	105	60-140	
1,2,4-Trimethylbenzene	ug/L	50	49.6	99	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	54.2	108	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	50.9	102	60-140	
1,2-Dichlorobenzene	ug/L	50	48.5	97	60-140	
1,2-Dichloroethane	ug/L	50	42.2	84	60-140	
1,2-Dichloropropane	ug/L	50	46.4	93	60-140	
1,3,5-Trimethylbenzene	ug/L	50	47.9	96	60-140	
1,3-Dichlorobenzene	ug/L	50	49.3	99	60-140	

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

LABORATORY CONTROL SAMPLE: 1657757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	48.1	96	60-140	
1,4-Dichlorobenzene	ug/L	50	49.0	98	60-140	
2,2-Dichloropropane	ug/L	50	48.3	97	60-140	
2-Chlorotoluene	ug/L	50	47.2	94	60-140	
4-Chlorotoluene	ug/L	50	47.7	95	60-140	
Benzene	ug/L	50	48.9	98	60-140	
Bromobenzene	ug/L	50	49.0	98	60-140	
Bromochloromethane	ug/L	50	46.8	94	60-140	
Bromodichloromethane	ug/L	50	49.3	99	60-140	
Bromoform	ug/L	50	60.1	120	60-140	
Bromomethane	ug/L	50	34.6	69	60-140	
Carbon tetrachloride	ug/L	50	49.0	98	60-140	
Chlorobenzene	ug/L	50	47.3	95	60-140	
Chloroethane	ug/L	50	45.9	92	60-140	
Chloroform	ug/L	50	44.9	90	60-140	
Chloromethane	ug/L	50	37.3	75	60-140	
cis-1,2-Dichloroethene	ug/L	50	44.3	89	60-140	
cis-1,3-Dichloropropene	ug/L	50	49.7	99	60-140	
Dibromochloromethane	ug/L	50	56.3	113	60-140	
Dibromomethane	ug/L	50	49.0	98	60-140	
Dichlorodifluoromethane	ug/L	50	30.2	60	60-140	
Diisopropyl ether	ug/L	50	47.6	95	60-140	
Ethylbenzene	ug/L	50	46.8	94	60-140	
Hexachloro-1,3-butadiene	ug/L	50	52.5	105	60-140	
Isopropylbenzene (Cumene)	ug/L	50	46.6	93	60-140	
m&p-Xylene	ug/L	100	92.6	93	60-140	
Methyl-tert-butyl ether	ug/L	50	49.8	100	60-140	
Methylene Chloride	ug/L	50	43.8	88	60-140	
n-Butylbenzene	ug/L	50	49.1	98	60-140	
n-Propylbenzene	ug/L	50	46.8	94	60-140	
Naphthalene	ug/L	50	52.5	105	60-140	
o-Xylene	ug/L	50	45.8	92	60-140	
sec-Butylbenzene	ug/L	50	46.9	94	60-140	
Styrene	ug/L	50	49.6	99	60-140	
tert-Butylbenzene	ug/L	50	39.6	79	60-140	
Tetrachloroethene	ug/L	50	46.4	93	60-140	
Toluene	ug/L	50	45.5	91	60-140	
trans-1,2-Dichloroethene	ug/L	50	45.6	91	60-140	
trans-1,3-Dichloropropene	ug/L	50	50.0	100	60-140	
Trichloroethene	ug/L	50	45.4	91	60-140	
Trichlorofluoromethane	ug/L	50	43.3	87	60-140	
Vinyl chloride	ug/L	50	41.1	82	60-140	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1657758 1657759											
Parameter	Units	92284408003		MS	MSD	MS	MSD	MS	MSD	% Rec	RPD
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20	20.8	21.6	104	108	60-140	4
1,1,1-Trichloroethane	ug/L	ND	20	20	20	22.1	22.2	111	111	60-140	0
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20	20.3	20.7	101	104	60-140	2
1,1,2-Trichloroethane	ug/L	ND	20	20	20	20.8	20.9	104	105	60-140	1
1,1-Dichloroethane	ug/L	ND	20	20	20	21.1	21.4	105	107	60-140	1
1,1-Dichloroethene	ug/L	ND	20	20	20	22.4	22.2	112	111	60-140	1
1,1-Dichloropropene	ug/L	ND	20	20	20	22.3	22.4	112	112	60-140	0
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20	21.1	22.4	106	112	60-140	6
1,2,3-Trichloropropane	ug/L	ND	20	20	20	20.9	21.7	104	108	60-140	4
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20	21.0	21.9	105	110	60-140	4
1,2,4-Trimethylbenzene	ug/L	ND	20	20	20	20.8	21.8	104	109	60-140	4
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	20	20.9	21.8	104	109	60-140	4
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20	21.2	22.1	106	111	60-140	4
1,2-Dichlorobenzene	ug/L	ND	20	20	20	20.1	21.1	101	105	60-140	5
1,2-Dichloroethane	ug/L	ND	20	20	20	19.6	19.8	97	98	60-140	1
1,2-Dichloropropane	ug/L	ND	20	20	20	20.3	20.7	102	103	60-140	2
1,3,5-Trimethylbenzene	ug/L	ND	20	20	20	20.4	21.2	102	106	60-140	4
1,3-Dichlorobenzene	ug/L	ND	20	20	20	20.5	21.5	102	107	60-140	5
1,3-Dichloropropane	ug/L	ND	20	20	20	20.2	20.6	101	103	60-140	2
1,4-Dichlorobenzene	ug/L	ND	20	20	20	20.6	21.6	102	107	60-140	5
2,2-Dichloropropane	ug/L	ND	20	20	20	21.0	21.3	105	106	60-140	1
2-Chlorotoluene	ug/L	ND	20	20	20	19.7	20.6	98	103	60-140	5
4-Chlorotoluene	ug/L	ND	20	20	20	20.2	21.2	101	106	60-140	5
Benzene	ug/L	ND	20	20	20	22.2	22.2	111	111	60-140	0
Bromobenzene	ug/L	ND	20	20	20	21.5	22.8	107	114	60-140	6
Bromochloromethane	ug/L	ND	20	20	20	20.9	21.2	105	106	60-140	1
Bromodichloromethane	ug/L	ND	20	20	20	20.6	21.0	103	105	60-140	2
Bromoform	ug/L	ND	20	20	20	19.0	20.6	95	103	60-140	8
Bromomethane	ug/L	ND	20	20	20	16.1	15.2	81	76	60-140	6
Carbon tetrachloride	ug/L	ND	20	20	20	21.6	22.2	108	111	60-140	3
Chlorobenzene	ug/L	ND	20	20	20	20.4	21.2	102	106	60-140	4
Chloroethane	ug/L	ND	20	20	20	23.5	23.0	118	115	60-140	2
Chloroform	ug/L	ND	20	20	20	20.6	21.1	103	106	60-140	3
Chloromethane	ug/L	ND	20	20	20	19.7	19.9	98	100	60-140	1
cis-1,2-Dichloroethene	ug/L	ND	20	20	20	20.9	21.2	105	106	60-140	1
cis-1,3-Dichloropropene	ug/L	ND	20	20	20	20.2	20.8	101	104	60-140	3
Dibromochloromethane	ug/L	ND	20	20	20	20.4	22.1	102	110	60-140	8
Dibromomethane	ug/L	ND	20	20	20	21.6	21.5	108	108	60-140	0
Dichlorodifluoromethane	ug/L	ND	20	20	20	20.4	20.7	102	104	60-140	1
Diisopropyl ether	ug/L	ND	20	20	20	21.3	21.6	107	108	60-140	1
Ethylbenzene	ug/L	ND	20	20	20	20.5	21.2	102	106	60-140	3
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20	20.1	20.8	101	104	60-140	3
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20	20.3	21.1	102	105	60-140	4
m&p-Xylene	ug/L	ND	40	40	40	40.8	42.2	102	106	60-140	3
Methyl-tert-butyl ether	ug/L	ND	20	20	20	22.1	22.6	111	113	60-140	2
Methylene Chloride	ug/L	ND	20	20	20	20.1	20.1	99	99	60-140	0

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1657758 1657759											
Parameter	92284408003		MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.							
n-Butylbenzene	ug/L	ND	20	20	20.1	20.8	101	104	60-140	3	
n-Propylbenzene	ug/L	ND	20	20	20.1	21.0	100	105	60-140	5	
Naphthalene	ug/L	ND	20	20	21.3	22.5	107	112	60-140	5	
o-Xylene	ug/L	ND	20	20	20.2	20.8	101	104	60-140	3	
sec-Butylbenzene	ug/L	ND	20	20	19.9	20.9	100	105	60-140	5	
Styrene	ug/L	ND	20	20	20.7	21.3	103	106	60-140	3	
tert-Butylbenzene	ug/L	ND	20	20	17.0	17.8	85	89	60-140	4	
Tetrachloroethene	ug/L	ND	20	20	20.4	21.2	102	106	60-140	4	
Toluene	ug/L	ND	20	20	20.5	20.9	102	104	60-140	2	
trans-1,2-Dichloroethene	ug/L	ND	20	20	21.1	21.7	105	108	60-140	3	
trans-1,3-Dichloropropene	ug/L	ND	20	20	20.1	20.6	100	103	60-140	3	
Trichloroethene	ug/L	ND	20	20	20.7	20.9	104	105	60-140	1	
Trichlorofluoromethane	ug/L	ND	20	20	22.2	22.5	111	113	60-140	2	
Vinyl chloride	ug/L	ND	20	20	21.7	22.1	109	111	60-140	2	
1,2-Dichloroethane-d4 (S)	%						103	100	70-130		
4-Bromofluorobenzene (S)	%						101	102	70-130		
Toluene-d8 (S)	%						100	99	70-130		

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

QC Batch: MSV/35397

Analysis Method: SM 6200B

QC Batch Method: SM 6200B

Analysis Description: 6200B MSV

Associated Lab Samples: 92284408004, 92284408005, 92284408006, 92284408007, 92284408008, 92284408009

METHOD BLANK: 1657779

Matrix: Water

Associated Lab Samples: 92284408004, 92284408005, 92284408006, 92284408007, 92284408008, 92284408009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	0.50	02/02/16 02:27	
1,1,1-Trichloroethane	ug/L	ND	0.50	02/02/16 02:27	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	02/02/16 02:27	
1,1,2-Trichloroethane	ug/L	ND	0.50	02/02/16 02:27	
1,1-Dichloroethane	ug/L	ND	0.50	02/02/16 02:27	
1,1-Dichloroethene	ug/L	ND	0.50	02/02/16 02:27	
1,1-Dichloropropene	ug/L	ND	0.50	02/02/16 02:27	
1,2,3-Trichlorobenzene	ug/L	ND	2.0	02/02/16 02:27	
1,2,3-Trichloropropane	ug/L	ND	0.50	02/02/16 02:27	
1,2,4-Trichlorobenzene	ug/L	ND	2.0	02/02/16 02:27	
1,2,4-Trimethylbenzene	ug/L	ND	0.50	02/02/16 02:27	
1,2-Dibromo-3-chloropropane	ug/L	ND	1.0	02/02/16 02:27	
1,2-Dibromoethane (EDB)	ug/L	ND	0.50	02/02/16 02:27	
1,2-Dichlorobenzene	ug/L	ND	0.50	02/02/16 02:27	
1,2-Dichloroethane	ug/L	ND	0.50	02/02/16 02:27	
1,2-Dichloropropane	ug/L	ND	0.50	02/02/16 02:27	
1,3,5-Trimethylbenzene	ug/L	ND	0.50	02/02/16 02:27	
1,3-Dichlorobenzene	ug/L	ND	0.50	02/02/16 02:27	
1,3-Dichloropropane	ug/L	ND	0.50	02/02/16 02:27	
1,4-Dichlorobenzene	ug/L	ND	0.50	02/02/16 02:27	
2,2-Dichloropropane	ug/L	ND	0.50	02/02/16 02:27	
2-Chlorotoluene	ug/L	ND	0.50	02/02/16 02:27	
4-Chlorotoluene	ug/L	ND	0.50	02/02/16 02:27	
Benzene	ug/L	ND	0.50	02/02/16 02:27	
Bromobenzene	ug/L	ND	0.50	02/02/16 02:27	
Bromochloromethane	ug/L	ND	0.50	02/02/16 02:27	
Bromodichloromethane	ug/L	ND	0.50	02/02/16 02:27	
Bromoform	ug/L	ND	0.50	02/02/16 02:27	
Bromomethane	ug/L	ND	5.0	02/02/16 02:27	
Carbon tetrachloride	ug/L	ND	0.50	02/02/16 02:27	
Chlorobenzene	ug/L	ND	0.50	02/02/16 02:27	
Chloroethane	ug/L	ND	1.0	02/02/16 02:27	
Chloroform	ug/L	ND	0.50	02/02/16 02:27	
Chloromethane	ug/L	ND	1.0	02/02/16 02:27	
cis-1,2-Dichloroethene	ug/L	ND	0.50	02/02/16 02:27	
cis-1,3-Dichloropropene	ug/L	ND	0.50	02/02/16 02:27	
Dibromochloromethane	ug/L	ND	0.50	02/02/16 02:27	
Dibromomethane	ug/L	ND	0.50	02/02/16 02:27	
Dichlorodifluoromethane	ug/L	ND	0.50	02/02/16 02:27	
Diisopropyl ether	ug/L	ND	0.50	02/02/16 02:27	
Ethylbenzene	ug/L	ND	0.50	02/02/16 02:27	

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

METHOD BLANK: 1657779

Matrix: Water

Associated Lab Samples: 92284408004, 92284408005, 92284408006, 92284408007, 92284408008, 92284408009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	ND	2.0	02/02/16 02:27	
Isopropylbenzene (Cumene)	ug/L	ND	0.50	02/02/16 02:27	
m&p-Xylene	ug/L	ND	1.0	02/02/16 02:27	
Methyl-tert-butyl ether	ug/L	ND	0.50	02/02/16 02:27	
Methylene Chloride	ug/L	ND	2.0	02/02/16 02:27	
n-Butylbenzene	ug/L	ND	0.50	02/02/16 02:27	
n-Propylbenzene	ug/L	ND	0.50	02/02/16 02:27	
Naphthalene	ug/L	ND	2.0	02/02/16 02:27	
o-Xylene	ug/L	ND	0.50	02/02/16 02:27	
sec-Butylbenzene	ug/L	ND	0.50	02/02/16 02:27	
Styrene	ug/L	ND	0.50	02/02/16 02:27	
tert-Butylbenzene	ug/L	ND	0.50	02/02/16 02:27	
Tetrachloroethene	ug/L	ND	0.50	02/02/16 02:27	
Toluene	ug/L	ND	0.50	02/02/16 02:27	
trans-1,2-Dichloroethene	ug/L	ND	0.50	02/02/16 02:27	
trans-1,3-Dichloropropene	ug/L	ND	0.50	02/02/16 02:27	
Trichloroethene	ug/L	ND	0.50	02/02/16 02:27	
Trichlorofluoromethane	ug/L	ND	1.0	02/02/16 02:27	
Vinyl chloride	ug/L	ND	1.0	02/02/16 02:27	
1,2-Dichloroethane-d4 (S)	%	102	70-130	02/02/16 02:27	
4-Bromofluorobenzene (S)	%	100	70-130	02/02/16 02:27	
Toluene-d8 (S)	%	100	70-130	02/02/16 02:27	

LABORATORY CONTROL SAMPLE: 1657780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.9	98	60-140	
1,1,1-Trichloroethane	ug/L	50	48.3	97	60-140	
1,1,2,2-Tetrachloroethane	ug/L	50	46.2	92	60-140	
1,1,2-Trichloroethane	ug/L	50	46.9	94	60-140	
1,1-Dichloroethane	ug/L	50	45.9	92	60-140	
1,1-Dichloroethene	ug/L	50	47.1	94	60-140	
1,1-Dichloropropene	ug/L	50	47.8	96	60-140	
1,2,3-Trichlorobenzene	ug/L	50	48.4	97	60-140	
1,2,3-Trichloropropane	ug/L	50	48.4	97	60-140	
1,2,4-Trichlorobenzene	ug/L	50	47.6	95	60-140	
1,2,4-Trimethylbenzene	ug/L	50	46.9	94	60-140	
1,2-Dibromo-3-chloropropane	ug/L	50	49.6	99	60-140	
1,2-Dibromoethane (EDB)	ug/L	50	48.7	97	60-140	
1,2-Dichlorobenzene	ug/L	50	46.0	92	60-140	
1,2-Dichloroethane	ug/L	50	42.7	85	60-140	
1,2-Dichloropropane	ug/L	50	46.4	93	60-140	
1,3,5-Trimethylbenzene	ug/L	50	45.9	92	60-140	
1,3-Dichlorobenzene	ug/L	50	46.7	93	60-140	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

LABORATORY CONTROL SAMPLE: 1657780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3-Dichloropropane	ug/L	50	46.8	94	60-140	
1,4-Dichlorobenzene	ug/L	50	46.7	93	60-140	
2,2-Dichloropropane	ug/L	50	43.1	86	60-140	
2-Chlorotoluene	ug/L	50	44.2	88	60-140	
4-Chlorotoluene	ug/L	50	45.1	90	60-140	
Benzene	ug/L	50	49.4	99	60-140	
Bromobenzene	ug/L	50	44.6	89	60-140	
Bromochloromethane	ug/L	50	47.1	94	60-140	
Bromodichloromethane	ug/L	50	47.8	96	60-140	
Bromoform	ug/L	50	51.4	103	60-140	
Bromomethane	ug/L	50	38.0	76	60-140	
Carbon tetrachloride	ug/L	50	49.5	99	60-140	
Chlorobenzene	ug/L	50	46.4	93	60-140	
Chloroethane	ug/L	50	47.9	96	60-140	
Chloroform	ug/L	50	45.5	91	60-140	
Chloromethane	ug/L	50	43.9	88	60-140	
cis-1,2-Dichloroethene	ug/L	50	45.2	90	60-140	
cis-1,3-Dichloropropene	ug/L	50	47.5	95	60-140	
Dibromochloromethane	ug/L	50	51.3	103	60-140	
Dibromomethane	ug/L	50	48.7	97	60-140	
Dichlorodifluoromethane	ug/L	50	42.3	85	60-140	
Diisopropyl ether	ug/L	50	47.3	95	60-140	
Ethylbenzene	ug/L	50	46.1	92	60-140	
Hexachloro-1,3-butadiene	ug/L	50	47.5	95	60-140	
Isopropylbenzene (Cumene)	ug/L	50	45.6	91	60-140	
m&p-Xylene	ug/L	100	91.2	91	60-140	
Methyl-tert-butyl ether	ug/L	50	49.3	99	60-140	
Methylene Chloride	ug/L	50	43.5	87	60-140	
n-Butylbenzene	ug/L	50	45.7	91	60-140	
n-Propylbenzene	ug/L	50	44.7	89	60-140	
Naphthalene	ug/L	50	48.1	96	60-140	
o-Xylene	ug/L	50	45.6	91	60-140	
sec-Butylbenzene	ug/L	50	45.1	90	60-140	
Styrene	ug/L	50	48.0	96	60-140	
tert-Butylbenzene	ug/L	50	38.6	77	60-140	
Tetrachloroethene	ug/L	50	45.5	91	60-140	
Toluene	ug/L	50	46.8	94	60-140	
trans-1,2-Dichloroethene	ug/L	50	46.1	92	60-140	
trans-1,3-Dichloropropene	ug/L	50	46.4	93	60-140	
Trichloroethene	ug/L	50	46.4	93	60-140	
Trichlorofluoromethane	ug/L	50	46.3	93	60-140	
Vinyl chloride	ug/L	50	46.4	93	60-140	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1657781 1657782											
Parameter	Units	92284408009		MS	MSD	MS		MSD	% Rec		Qual
		Result	Conc.	Spike	Spike	Result	Result	Result	% Rec	Limits	
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20	21.7	20.6	108	103	60-140	5
1,1,1-Trichloroethane	ug/L	ND	20	20	20	20.6	21.0	103	105	60-140	2
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20	20.7	20.3	104	101	60-140	2
1,1,2-Trichloroethane	ug/L	ND	20	20	20	20.1	20.2	100	101	60-140	1
1,1-Dichloroethane	ug/L	ND	20	20	20	20.0	20.0	100	100	60-140	0
1,1-Dichloroethene	ug/L	ND	20	20	20	20.1	20.1	100	101	60-140	0
1,1-Dichloropropene	ug/L	ND	20	20	20	21.0	21.2	105	106	60-140	1
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20	22.4	21.7	112	108	60-140	3
1,2,3-Trichloropropane	ug/L	ND	20	20	20	22.2	21.5	111	108	60-140	3
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20	21.9	21.7	110	109	60-140	1
1,2,4-Trimethylbenzene	ug/L	ND	20	20	20	21.9	21.2	109	106	60-140	3
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	20	21.5	20.9	107	104	60-140	3
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20	21.8	21.3	109	106	60-140	3
1,2-Dichlorobenzene	ug/L	ND	20	20	20	20.8	20.7	104	103	60-140	1
1,2-Dichloroethane	ug/L	ND	20	20	20	18.8	18.8	93	94	60-140	0
1,2-Dichloropropane	ug/L	1.7	20	20	20	21.5	21.8	99	100	60-140	1
1,3,5-Trimethylbenzene	ug/L	ND	20	20	20	21.4	21.0	107	105	60-140	2
1,3-Dichlorobenzene	ug/L	ND	20	20	20	21.5	21.1	107	106	60-140	2
1,3-Dichloropropane	ug/L	ND	20	20	20	20.3	19.6	101	98	60-140	3
1,4-Dichlorobenzene	ug/L	ND	20	20	20	21.4	20.6	107	103	60-140	4
2,2-Dichloropropane	ug/L	ND	20	20	20	20.5	20.9	102	104	60-140	2
2-Chlorotoluene	ug/L	ND	20	20	20	20.8	20.2	104	101	60-140	3
4-Chlorotoluene	ug/L	ND	20	20	20	21.1	20.4	105	102	60-140	4
Benzene	ug/L	ND	20	20	20	21.3	21.2	107	106	60-140	1
Bromobenzene	ug/L	ND	20	20	20	20.5	19.8	103	99	60-140	4
Bromochloromethane	ug/L	ND	20	20	20	19.8	20.5	99	102	60-140	3
Bromodichloromethane	ug/L	ND	20	20	20	19.8	19.9	99	100	60-140	1
Bromoform	ug/L	ND	20	20	20	18.9	18.6	95	93	60-140	2
Bromomethane	ug/L	ND	20	20	20	5.4	6.9	27	34	60-140	24 M1
Carbon tetrachloride	ug/L	ND	20	20	20	20.7	20.8	104	104	60-140	0
Chlorobenzene	ug/L	ND	20	20	20	20.9	20.3	105	101	60-140	3
Chloroethane	ug/L	ND	20	20	20	18.9	19.4	94	97	60-140	3
Chloroform	ug/L	ND	20	20	20	20.0	20.2	100	101	60-140	1
Chloromethane	ug/L	ND	20	20	20	11.8	11.9	59	60	60-140	1 M1
cis-1,2-Dichloroethene	ug/L	ND	20	20	20	19.5	19.7	98	99	60-140	1
cis-1,3-Dichloropropene	ug/L	ND	20	20	20	19.6	19.9	98	99	60-140	1
Dibromochloromethane	ug/L	ND	20	20	20	20.5	20.5	103	103	60-140	0
Dibromomethane	ug/L	ND	20	20	20	20.7	20.4	104	102	60-140	2
Dichlorodifluoromethane	ug/L	ND	20	20	20	8.2	8.5	41	43	60-140	4 M1
Diisopropyl ether	ug/L	ND	20	20	20	20.1	20.2	101	101	60-140	0
Ethylbenzene	ug/L	ND	20	20	20	21.0	20.4	105	102	60-140	3
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20	21.8	21.4	109	107	60-140	2
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20	21.0	20.1	105	100	60-140	5
m&p-Xylene	ug/L	ND	40	40	40	41.5	40.4	104	101	60-140	3
Methyl-tert-butyl ether	ug/L	ND	20	20	20	20.7	21.1	104	105	60-140	2
Methylene Chloride	ug/L	ND	20	20	20	18.7	18.8	93	93	60-140	0

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1657781 1657782											
Parameter	Units	92284408009		MS	MSD	MS		MS	MSD	% Rec	Qual
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	
n-Butylbenzene	ug/L	ND	20	20	20	21.7	20.8	109	104	60-140	5
n-Propylbenzene	ug/L	ND	20	20	20	21.1	20.3	106	101	60-140	4
Naphthalene	ug/L	ND	20	20	20	22.7	22.1	113	110	60-140	3
o-Xylene	ug/L	ND	20	20	20	20.4	19.8	102	99	60-140	3
sec-Butylbenzene	ug/L	ND	20	20	20	21.1	20.8	106	104	60-140	1
Styrene	ug/L	ND	20	20	20	21.4	20.5	107	103	60-140	4
tert-Butylbenzene	ug/L	ND	20	20	20	17.9	17.3	89	87	60-140	3
Tetrachloroethene	ug/L	ND	20	20	20	21.2	20.3	106	101	60-140	4
Toluene	ug/L	ND	20	20	20	20.4	20.0	102	100	60-140	2
trans-1,2-Dichloroethene	ug/L	ND	20	20	20	19.8	20.3	99	102	60-140	2
trans-1,3-Dichloropropene	ug/L	ND	20	20	20	19.7	19.1	99	96	60-140	3
Trichloroethene	ug/L	ND	20	20	20	20.2	20.1	101	101	60-140	1
Trichlorofluoromethane	ug/L	ND	20	20	20	19.4	19.4	97	97	60-140	0
Vinyl chloride	ug/L	ND	20	20	20	15.8	16.0	79	80	60-140	1
1,2-Dichloroethane-d4 (S)	%							97	100	70-130	
4-Bromofluorobenzene (S)	%							101	101	70-130	
Toluene-d8 (S)	%							98	99	70-130	

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## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: FLOWERS STORE PROPERTY

Pace Project No.: 92284408

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: FLOWERS STORE PROPERTY


Pace Project No.: 92284408

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92284408001	MW-7	SM 6200B	MSV/35395		
92284408002	MW-8	SM 6200B	MSV/35395		
92284408003	MW-3	SM 6200B	MSV/35395		
92284408004	MW-5	SM 6200B	MSV/35397		
92284408005	MW-9	SM 6200B	MSV/35397		
92284408006	MW-10	SM 6200B	MSV/35397		
92284408007	WSW-2	SM 6200B	MSV/35397		
92284408008	WSW-4	SM 6200B	MSV/35397		
92284408009	WSW-5	SM 6200B	MSV/35397		

## REPORT OF LABORATORY ANALYSIS

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	Document Name: <b>Sample Condition Upon Receipt(SCUR)</b>	Document Revised: 26OCT2015 Page 1 of 2
	Document No.: <b>F-CHR-CS-003-rev.17</b>	Issuing Authority: Pace Huntersville Quality Office

<b>Sample Condition Upon Receipt</b> Courier: <input type="checkbox"/> Commercial <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input checked="" type="checkbox"/> Pace <input type="checkbox"/> Other: _____	<b>Client Name:</b> <u>ECS</u>	<b>Project #:</b> <b>WO# : 92284408</b>  <b>92284408</b>
--	-----------------------------------	---

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No      Seals Intact? ☐ Yes ☒ No  
 Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: \_\_\_\_\_  
 Thermometer Used: ☒ T1505      Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun  
 Cooler Temp Corrected (°C): 4.1°C      Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A  
 Temp should be above freezing to 6°C      Correction Factor: 0.0 °C      Date and Initials of Person Examining Contents: 1-27-16 KWO  
**USDA Regulated Soil** ( ☒ N/A, water sample)  
 Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☒ No      Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>LOT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LLHg	
Samples checked for dechlorization? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>5-6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

**CLIENT NOTIFICATION/RESOLUTION**

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Resolution: \_\_\_\_\_

Field Data Required? ☐ Yes ☒ No

Project Manager SCURF Review: \_\_\_\_\_

Date: 1/27

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (3500 Out of hold, incorrect preservative, out of temp, incorrect containers).

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

## Section A Required Client Information:

Company:	ECS Carolina	Report To:	Mat Gillis
Address:	9001 Glenwood Avenue	Copy To:	Paul Stephens
Raleigh, NC		Purchase Order No.:	4911226
Email To:	mgillis@ecslimited.com	Address:	
Phone:	919-861-9416	Reference:	
Fax:		Pace Project Manager:	
Requested Due Date/AT:		Pace Profile #:	10800-1
		Project Number:	4911226

## Section B Required Project Information:

Attention:	Angie King
Company Name:	ECS
Address:	
Pace Quote Reference:	

Page: 1 of 1

2056616

## REGULATORY AGENCY

<input checked="" type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
<input checked="" type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER

Site Location	STATE:
NC	

## Section D Required Client Information

ITEM #	Matrix Codes MATRIX / CODE Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME			DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl				

1	MW-7	WT	G	1-26-15	11:48	4										001
2	MW-8			12:15												002
3	MW-3			12:41												003
4	MW-5			13:08												004
5	MW-9			13:34												005
6	MW-10			14:08												006
7	MW-2			14:25												007
8	MW-4			14:25												008
9	MW-5			15:10												009
10																
11																
12																

## ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Paul Stephens / ECS	1-24-15	9:30	Paul Stephens / ECS	1-27-15	9:50	
Paul Stephens / ECS	1-27-15	15:20	Paul Stephens / ECS	1-27-15	15:20	

ORIGINAL

## SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:	Paul Stephens	DATE Signed (MM/DD/YY):	1-26-15	Temp in °C		Received on Ice (Y/N)		Custody Sealed Cooler (Y/N)		Samples Intact (Y/N)	
SIGNATURE of SAMPLER:	Paul Stephens										



**PROJECT SPECIAL PROVISIONS  
GEOENVIRONMENTAL**

**CONTAMINATED SOIL (7/8/2016)**

The Contractor's attention is directed to the fact that soil contaminated with petroleum hydrocarbon compounds exist within the project area. The known areas of contamination are indicated on corresponding plans sheets. Information relating to these contaminated areas, sample locations, and investigation reports are available at the following web address by navigating to the correct letting year and month then selecting, "Plans and Proposals", "R3825B", "GeoEnv Postings":

<http://dotw-xfer01.dot.state.nc.us/dsplan/>

Petroleum contaminated soil may be encountered during any earthwork activities on the project. The Contractor shall only excavate those soils that the Engineer designates necessary to complete a particular task. The Engineer shall determine if soil is contaminated based on petroleum odors and unusual soil staining. Contaminated soil not required to be excavated is to remain in place and undisturbed. Undisturbed soil shall remain in place, whether contaminated or not. The Contractor shall transport all contaminated soil excavated from the project to a facility licensed to accept contaminated soil.

In the event that the Contractor chooses to stockpile the soil temporarily, the stockpile shall be created within the property boundaries of the source material and in accordance with the Stockpile Containment Detail found in the plans. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDENR UST Section's Regional Office for off-site temporary storage. Stockpiling contaminated soil will be incidental to the project. The Contractor shall provide disposal manifests and weigh tickets to the Engineer for review and approval. The Engineer will in turn provide the GeoEnvironmental Section with a copy of the disposal manifests and weigh tickets for their records.

**Measurement and Payment:**

The quantity of contaminated soil hauled, and disposed of shall be the actual number of tons of material, which has been acceptably transported and weighed with certified scales as documented by disposal manifests and weigh tickets. The quantity of contaminated soil, measured as provided above, shall be paid for at the contract unit price per ton for "Hauling and Disposal of Petroleum Contaminated Soil".

The above price and payment shall be full compensation for all work covered by this section, including, but not limited to loading, transportation, weighing, laboratory testing, disposal, equipment, decontamination of equipment, labor, and personal protective equipment.

Payment shall be made under:

**Pay Item**

Hauling and Disposal of Petroleum Contaminated Soil

**Pay Unit**  
Ton

DocuSigned by:

*Cyrus Parker*

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7/8/2016

